

Mallows Bay – Potomac River National Marine Sanctuary Designation

Final Environmental Impact Statement and Final Management Plan



National Oceanic and Atmospheric Administration (NOAA)
U.S. Secretary of Commerce
Wilbur Ross

Assistant Secretary of Commerce for Oceans
and Atmosphere and Deputy NOAA Administrator
RDML Tim Gallaudet, Ph.D., USN Ret.

Acting Assistant Administrator for Ocean Services and Coastal Zone
Management, National Ocean Service
Nicole R. LeBoeuf

Director, Office of National Marine Sanctuaries
John Armor

Cover Photo: Mallows Bay in the Potomac River is home to an extraordinary collection of shipwrecks. Photo: Marine Robotics and Remote Sensing, Duke University.



Abstract

In accordance with the National Environmental Policy Act (NEPA, 42 U.S.C. 4321 *et seq.*) and the National Marine Sanctuaries Act (NMSA, 16 U.S.C. 1434 *et seq.*), the National Oceanic and Atmospheric Administration (NOAA) Office of National Marine Sanctuaries (ONMS) prepared a Final Environmental Impact Statement (FEIS) that analyzes impacts and evaluates a reasonable range of alternatives associated with the proposed designation of Malloys Bay-Potomac River National Marine Sanctuary. The action addresses NOAA's responsibilities under the NMSA to identify, designate, and protect areas of the marine and Great Lakes environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or aesthetic qualities as national marine sanctuaries. ONMS developed four alternatives for the proposed designation and the FEIS evaluates the environmental consequences of each alternative under NEPA. The FEIS also serves as a resource assessment under the NMSA, documenting present and potential uses of the areas considered in the alternatives. NOAA's preferred alternative (Alternative B) would designate an approximately 18 square mile bay area of waters and submerged lands of the tidal Potomac River for the protection of at-risk, nationally-significant shipwrecks and associated maritime cultural heritage resources. No significant adverse impacts to resources and the human environment are expected under any alternative. Long-term beneficial impacts are anticipated if the proposed designation is finalized.

Lead Agency: National Oceanic and Atmospheric Administration

Cooperating Agencies: U.S. Department of the Navy

For Further Information Contact: Paul Orlando, Regional Coordinator, Eastern Region at (240) 460-1978, paul.orlando@noaa.gov



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Office of National Marine Sanctuaries
1305 East-West Highway
Silver Spring, Maryland 20910

Dear Reviewer:

In accordance with provisions of the National Environmental Policy Act of 1969 (NEPA), the National Oceanic and Atmospheric Administration (NOAA) encloses for your review the Final Environmental Impact Statement (FEIS) and Final Management Plan (FMP) for the Malloes Bay-Potomac River National Marine Sanctuary (MPNMS).

Through the designation of MPNMS, NOAA seeks to protect nationally significant maritime cultural heritage resources located entirely within the tidal Potomac River waters and submerged lands of the State of Maryland. The area's maritime cultural heritage resources include the fragile, historic remains of more than 100 World War I-era U.S. Emergency Fleet Corporation (USEFC) wooden steamships known as the "Ghost Fleet," other non-USEFC vessels of historic significant, and other archaeological and cultural resources.

This FEIS/FMP is prepared pursuant to NEPA to assess the environmental impacts associated with NOAA designating the national marine sanctuary under the National Marine Sanctuaries Act (NMSA). The NMSA requires that an EIS be prepared for designation, regardless of the significance of the impacts of the proposed action. The FMP contains the non-regulatory management actions for the sanctuary. NOAA will publish a final rule to establish the boundaries, regulations, and terms of designation for MPNMS. Under the NMSA, after the publication of the final rule the designation becomes effective after 45 days of Congressional session. During this time, Congress and the Governor of Maryland will review NOAA's documents. NOAA will develop the record of decision (ROD) and publish a notice of effective date of the designation after the review period is complete.

Although NOAA is not required to respond to comments received as a result of issuance of the FEIS/FMP, any comments received will be reviewed and considered for their impact on issuance of a ROD. Please send comments to the Sanctuary Official identified below by July 1, 2019. The ROD will be made available publicly following final agency action.

Responsible Official: John Armor, Director
NOAA Office of National Marine Sanctuaries

Sanctuary Official: Paul Orlando, Regional Coordinator
NOAA Office of National Marine Sanctuaries
1305 East West Hwy., 11th Floor, Silver Spring, MD 20910
Phone: 240-460-1978

Sincerely,



John Armor
Director



About This Document

This FEIS analyzes impacts and evaluates a reasonable range of alternatives (including a no action alternative) associated with the proposed designation of Mallows Bay-Potomac River National Marine Sanctuary (MPNMS). This FEIS is also a resource assessment document that details the present and future uses of the areas identified for designation.

The National Oceanic and Atmospheric Administration (NOAA) prepared this FEIS in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 USC 4321 *et seq.*) as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and NOAA Administrative Order (NAO) 216-6A, which describes NOAA policies, requirements, and procedures for implementing NEPA.

Through the designation of MPNMS, NOAA seeks to protect nationally-significant maritime cultural heritage resources located entirely within the waters and submerged lands of the state of Maryland. This is a small bay area of the tidal Potomac River, which is adjacent to the Nanjemoy Peninsula of Charles County, Maryland. The area's maritime cultural heritage resources include the fragile, historic remains of more than 100 World War I-era (WWI) U.S. Emergency Fleet Corporation (USEFC) wooden steamships known as the "Ghost Fleet," other non-USEFC vessels of historic significance, and other related maritime debris fields. The archaeological and cultural resources cover centuries of history dating back from the earliest American Indian presence in the region, approximately 12,000 years ago. The area also contains resources from the Revolutionary War, Civil War, and two World Wars, as well as generations of Potomac fishing industries. The significance of the area is recognized through its listing on the National Register of Historic Places (National Register Listing Number 15000173, April 24, 2015).

On October 7, 2015, NOAA initiated the public scoping process with the publication of a Notice of Intent in the Federal Register (NOI; 80 FR 60634). The NOI also announced NOAA's intent to fulfill its responsibilities under the requirements of the National Historic Preservation Act (NHPA). The public scoping period commenced in October 2015 and ended on January 15, 2016, during which time NOAA held public meetings and received both written and oral comments on the concept of designating a sanctuary. NOAA received approximately 186 comments during that scoping period, strongly supportive of designating a sanctuary within the state of Maryland. These public scoping comments were used by NOAA in preparing the proposed rule and the draft environmental impact statement and draft management plan (DEIS/DMP) associated with the proposed designation.

On January 9, 2017, NOAA published a notice in the Federal Register announcing a proposed rule to designate approximately 52 square miles of waters and submerged lands encompassing and surrounding the Mallows Bay area of the tidal Potomac River as a national marine sanctuary (82 FR 2254). NOAA also provided public notice of the availability of the related DEIS/DMP (82 FR 2254; 82 FR 1733). All three documents (proposed rule, DEIS, and DMP) were prepared in close consultation with the state of Maryland and Charles County, Maryland.

NOAA opened an 81-day public comment period for the three draft documents. NOAA received 1,120 written comments on the sanctuary proposal. During the public comment period, NOAA also held two separate public meetings in La Plata and Arnold, Maryland. Approximately 170 people attended the meetings, with 73 people providing verbal comments. Based on the public input, internal deliberations,

interagency consultations, and discussions with the state of Maryland and Charles County, NOAA made changes from the DEIS to the FEIS. In this FEIS, NOAA adopts Alternative B as the preferred alternative. The Alternative B boundary measures approximately 18 square miles. The Alternative B boundary begins at the mean high tide level on the Maryland side, extends across the Potomac River to the Virginia-Maryland state boundary line, and follows the boundary of the Malloys Bay-Widewater Historical and Archeological National Register District. The Alternative B boundary also closely matches the boundary submitted to NOAA by the governor of Maryland in the sanctuary nomination package. This smaller footprint contains a concentration of 142 historic shipwrecks, including USEFC vessels, vessels related to historic ship-breaking activities, other non-USEFC vessels of historic significance, and other related maritime debris fields. The area also includes nationally-significant Maryland state-recognized Indian Tribes heritage sites, remains of historic fisheries operations such as sturgeon and caviar industries, and Revolutionary War and Civil War battlescapes.

NOAA is the lead agency for this action. NOAA's Office of National Marine Sanctuaries (ONMS) is the implementing office for this action. The cooperating agency for the development of this FEIS is the U.S. Department of the Navy (DoN).

Recommended Citation

Office of National Marine Sanctuaries. 2019. Malloys Bay-Potomac River National Marine Sanctuary Designation Final Environmental Impact Statement and Final Management Plan. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD.

Table of Contents

Abstract	2
About This Document	4
Recommended Citation	5
Table of Contents	6
List of Figures	14
List of Tables	15
Acknowledgements	17
Acronyms	17
EXECUTIVE SUMMARY	19
NOAA’s original preferred alternative included in the 2017 DEIS and proposed rule	22
NOAA’s revised preferred alternative included in the FEIS and the final rule	23
How this document is organized	24
Revisions from the DEIS	24
Summary of impacts	25
Chapter 1	26
1.1 INTRODUCTION	26
1.1.1 The National Marine Sanctuaries Act	26
1.1.2 Office of National Marine Sanctuaries	26
1.1.3 Sanctuaries as marine protected areas	27
1.1.4 Comprehensive management of the National Marine Sanctuary System	28
1.1.5 Sanctuary nomination process	28
1.1.6 Sanctuary designation process	28
1.2 BACKGROUND	29
1.2.1 Community nomination for Mallows Bay-Potomac River	29
1.2.2 Public and agency involvement	31
Public scoping	31
Development of the proposed sanctuary regulations, draft management plan, and draft environmental impact statement	33
Public review of the proposed sanctuary regulations, draft management plan, and draft environmental impact statement	33
1.2.3 Revisions to the DEIS and preparation of the FEIS	35

1.2.4 Scope of FEIS	35
	36
Chapter 2	36
2.1 PROPOSED ACTION	36
2.2 PURPOSE OF AND NEED FOR ACTION	36
2.2.1 Purpose of action	36
2.2.2 Need for action	37
2.3 THREATS TO TARGET RESOURCES	37
2.4 EXISTING LEGAL AUTHORITIES AND GAP ANALYSIS	39
2.4.1 State of Maryland laws directed to protect maritime cultural heritage assets	40
Maryland Submerged Archaeological Historic Property Act, Md. Code Ann., State Fin. & Proc. 5A-333 et seq.	40
Summary	40
Potential sanctions for violations	41
Gap analysis related to existing authorities for target resources	41
2.4.2 State of Maryland laws controlling activities that may indirectly affect maritime cultural heritage resources	42
Chesapeake Bay Critical Area Protection Act, Md. Code Ann., Natural Resources 8-1801 et seq.	42
Summary	42
Potential sanctions for violations	43
Gap analysis related to existing authorities for target resources	43
2.4.3 Federal laws directed to protect maritime cultural heritage assets	43
Abandoned Shipwreck Act (ASA) of 1987, 43 U.S.C. 2101 et seq.	43
Summary	43
Potential sanctions for violations	44
Gap analysis related to existing authorities for target resources	44
Sunken Military Craft Act	45
Summary	45
Potential sanctions for violations	45
Gap analysis related to existing authorities for target resources	46
Archaeological Resources Protection Act (ARPA) of 1979, Section 6(c)	46
Summary	46
Potential sanctions for violations	46

Gap analysis related to existing authorities for target resources	47
2.4.4 Federal laws controlling activities that may indirectly affect maritime cultural heritage resources	47
National Historic Preservation Act (NHPA) of 1966	47
Summary	47
Potential sanction for violation	48
Gap analysis related to existing authorities for target resources	48
FAA Modernization and Reform Act for 2012 (Pub. L. 112-095)	48
Summary	48
Potential sanctions for violations	49
Gap analysis related to existing authorities for target resources	49
2.4.5 National Marine Sanctuaries Act role to supplement and complement existing authorities for target resources	49
	52
Chapter 3	52
3.1 DEVELOPMENT OF ALTERNATIVES	52
3.2 DESCRIPTION OF ALTERNATIVES	53
3.2.1 Alternative A. No action or status quo alternative	54
3.2.2 Alternative B. Approximately 18 square miles (Preferred alternative)	56
3.2.3 Alternative C. Approximately 52 square miles	63
3.2.4 Alternative D. Approximately 100 square miles	68
3.2.5 Alternatives considered but not carried forward for further analysis	70
3.2.6 Regulations proposed for all action alternatives	70
3.2.7 Permits, certifications, and authorizations	72
3.2.8 Non-regulatory programs for all action alternatives	74
	75
Chapter 4	75
4.1 INTRODUCTION	75
4.2 PHYSICAL ENVIRONMENT	75
4.2.1 Geology	75
4.2.2 Water resources	77
4.2.2.1 Water quality/quantity	77
Maryland's water quality standards	77

Maryland's 2014 Integrated Report on Surface Water Quality	78
4.2.2.2 Water dynamics	79
4.2.3 Air quality	80
4.2.4 Climate	81
4.2.5 Noise	82
4.3 MARITIME CULTURAL LANDSCAPE RESOURCES	82
4.3.1 WWI vessels and shipbreaking	83
4.3.2 Other submerged historical and cultural resources	84
4.3.3 Contributing cultural aspects of the maritime cultural landscape	86
4.3.4 Tribal resources	86
4.3.5 African-American history	87
4.4 BIOLOGICAL RESOURCES	87
4.4.1 Fisheries	88
4.4.2 Protected species/critical habitat	90
Federal	90
Shortnose sturgeon	90
Atlantic sturgeon	91
State	92
4.4.3 Birds	93
4.4.4 Terrestrial species	95
Mammal	95
Reptiles and Amphibians	95
Invertebrates	97
4.4.5 Habitats	98
4.4.5.1 Tidal river	98
4.4.5.2 Palustrine	99
4.4.5.3 Terrestrial	99
4.4.5.4 Essential Fish Habitat (EFH)	100
Essential Fish Habitat	100
4.5 SOCIOECONOMIC RESOURCES	100
4.5.1 Water access and existing facilities	101
4.5.2 Recreational uses	104
4.5.2.1 Recreational fishing	104

4.5.2.2 Hunting and trapping	104
4.5.2.3 Fishing and hunting guide services	105
4.5.2.4 Fossil collecting	105
4.5.2.5 Boating and paddling	105
4.5.2.6 Birding and wildlife viewing	106
4.5.3 Commercial uses	106
4.5.3.1 Commercial fishing	106
4.5.3.2 Shipping	106
4.5.4 Tourism	107
4.5.5 Local economy	108
Economic study area	108
Population and demographics	111
Income and Employment	113
4.5.6. Passive economic use	114
4.6 DEPARTMENT OF DEFENSE FACILITIES	115
4.6.1 Marine Corps Base Quantico	116
4.6.2 Blossom Point Research Facility	117
4.6.3 Naval Support Facility Indian Head	118
4.6.4 Naval Support Facility Dahlgren	119
	123
Chapter 5	123
5.1 INTRODUCTION	123
5.2 AFFECTED RESOURCES AND POTENTIAL IMPACTS	123
5.2.1 Types of potential impacts	123
5.2.2 Duration of potential impacts	124
5.2.3 Geographic extent	124
5.2.4 Magnitude of potential impacts	124
5.3 ANALYSIS OF ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES	125
5.3.1 Alternative A: No action	125
Physical environment/biological resources	125
Maritime cultural landscape resources	126
Within the Historic District	126
Outside the Historic District	127

Socioeconomic resources	127
Department of Defense facilities	127
5.3.2 Impacts common to alternatives B, C, and D	128
Physical environment	130
Geology	130
Water resources	130
Quality and quantity	130
Water Dynamics	130
Air quality	131
Climate	131
Noise	131
Biological resources	131
Fisheries, protected species, birds, and terrestrial species	131
Habitat	131
Tidal river, palustrine, and essential fish habitat	131
Terrestrial	132
Socio-economic resources	132
Other recreational uses	132
Commercial uses	132
Tourism, local economy, passive economic use	133
5.3.3 Impacts specific to Alternative B	133
Maritime cultural landscape resources	134
Within Historic District	134
Outside Historic District	134
Socio-economic resources	134
Water access and facilities	134
Department of Defense facilities	135
Quantico, Blossom Point, Indian Head, Dahlgren	135
5.3.4 Impacts specific to Alternative C	135
Maritime cultural landscape resources	135
Within Historic District	135
Outside Historic District	136
Socio-economic resources	136

Water access and facilities	136
Department of Defense facilities	136
Quantico, Blossom Point, Indian Head, Dahlgren	136
5.3.5 Impacts specific to Alternative D	136
Socio-economic resources	137
Water access and facilities	137
Department of Defense facilities	137
Quantico, Blossom Point, Indian Head, Dahlgren	137
5.3.6 Relative magnitude across alternatives	137
5.3.7 Cumulative impacts	142
	146
Chapter 6	146
6.1 CONSULTATION AND ENVIRONMENTAL COMPLIANCE	146
6.1.1 Other procedural requirements under the NMSA	146
6.1.2 Relation to existing laws and executive orders	147
Coastal Zone Management Act (CZMA)	147
Endangered Species Act (ESA)	148
Fish and Wildlife Coordination Act, as amended in 1964	149
Magnuson-Stevens Fishery Conservation and Management Act (MSA)	150
Marine Mammal Protection Act of 1972	151
Migratory Bird Treaty Act of 1918	152
National Historic Preservation Act of 1966	152
Regulatory Flexibility Act (RFA)	154
Executive Order 12866 Cost-benefit Analysis	155
Executive Order 13132 Federalism	155
Executive Order 13175 Consultation and Coordination with Indian Tribal Governments	155
Executive Order 13795 Future Offshore Energy Potential Assessment	157
6.2 ENVIRONMENTAL JUSTICE	158
6.3 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY	158
6.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	159
Index	160
List of Preparers	161
References	163

APPENDIX A: Mallows Bay-Potomac River National Marine Sanctuary Final Management Plan	165
APPENDIX B: Additional state of Maryland authorities	206
APPENDIX C: Response to Comments on Draft EIS/DMP/Proposed Rule	211
APPENDIX D: Draft Memorandum of Agreement	230
APPENDIX E: Draft Version of Final Rule and Terms of Designation for Mallows Bay-Potomac River National Marine Sanctuary	243
APPENDIX F: Letters from Maryland and Virginia Attorneys General	293
APPENDIX G: Summary of Existing Military Activities	304

List of Figures

Figure ES1: Map of alternatives considered	21
Figure 1: Map of the National Marine Sanctuary System	27
Figure 2: Boundaries for alternatives B, C, and D	53
Figure 3: Boundary for Alternative B	58
Figure 4: Boundary for Alternative C	64
Figure 5: Boundary for Alternative C, detail of proposed boundary area around Marine Corp Base Quantico	65
Figure 6. Detail of proposed boundary (orange line) adjacent to Fairview, Virginia	67
Figure 7. Detail of proposed boundary (orange line) adjacent to Caledon, Virginia	68
Figure 8: Boundary for Alternative D	69
Figure 9: The Potomac River Basin	76
Figure 10: Maryland physiographic provinces and county boundaries	77
Figure 11: Maryland public access locations	103
Figure 12: Alternative B Economic Study Area	109
Figure 13: Alternative C Economic Study Area	110
Figure 14: Alternative D Economic Study Area	111
Figure 15: Map of proposed alternatives and DoD installations	116

List of Tables

Table 1: Summary of resources in each alternative including World War I (WWI) and U.S. Emergency Fleet Corporation (USEFC) vessels in Alternative B	54
Table 2: U.S. Emergency Fleet Corporation vessels in Alternative B	58
Table 3: Vessels related to U.S. Emergency Fleet Corporation ship-breaking in Alternative B	61
Table 4: Other vessels in Alternative B	61
Table 5: Partial and fragmentary vessel remains in Alternative B	62
Table 6: Non-vessel resources in Alternative B	62
Table 7: Cultural resources inside and outside of Historic District	62
Table 8: Additional resources in Alternative C	65
Table 9: Fish species identified during juvenile striped bass surveys between 1957 and 2015 at three Potomac River seine survey sites	88
Table 10: Federal and state protected species in MPNMS alternatives area	93
Table 11: Breeding bird species as identified by the 2002-2006 Maryland and District of Columbia Breeding Bird Atlas Project	94
Table 12: Reptile and amphibian species present in USGS quads within and adjacent to sanctuary boundary	96
Table 13: Selected socioeconomic measures of the study areas, Maryland, Virginia, and the U.S.	111
Table 14: Percent gender distribution of the study areas, Maryland, Virginia, and the U.S.	112
Table 15: Percent age distribution of the study areas, Maryland, Virginia, and the U.S.	112
Table 16: Percent race distribution of the study areas, Maryland, Virginia, and the U.S.	113
Table 17: Income and employment	113
Table 18: Economic sectors and percentage of employment	114
Table 19: Summary of terms used to describe potential environmental impacts	125
Table 20: Summary of the environmental consequences of Alternative A	127
Table 21: Summary of the environmental consequences common to alternatives B, C, and D	129

Table 22: Summary of the environmental consequences of Alternative B	133
Table 23: Summary of the environmental consequences of Alternative C	135
Table 24: Summary of the environmental consequences of Alternative D	136
Table 25: Comparison of the magnitude of the environmental consequences of all alternatives	138
Table 26: Comparison of cumulative effects of all alternatives	143

Acknowledgements

This document was prepared by staff members of NOAA's Office of National Marine Sanctuaries, Maryland Department of Natural Resources, Maryland Historical Trust, and Charles County, Maryland. As a cooperating agency, the Department of the Navy also assisted in developing this document. A full list of preparers is provided at the end of the document.

Acronyms

ARPA - Archaeological Resources Protection Act
ASA - Abandoned Shipwreck Act
BLM - Bureau of Land Management
BPRF - Blossom Point Research Facility
CZMA - Coastal Zone Management Act
DEIS - Draft Environmental Impact Statement
DNR - Maryland Department of Natural Resources
DoD - Department of Defense
EEZ - Exclusive Economic Zone
EPA - Environmental Protection Agency
ESA - Endangered Species Act
FEIS - Final Environmental Impact Statement
FIDS - Forest interior dwelling species
FMP - Final Management Plan
FWS - U.S. Fish and Wildlife Service
GCN - (Species of) Greatest Conservation Need
IBA - Important Bird Area
MHT - Maryland Historical Trust
MDP - Maryland Department of Planning
MOA - Memorandum of Agreement
MOTD - Maryland Office of Tourism Development
MPA - Marine Protected Area
NAO - NOAA Administrative Order
NEPA - National Environmental Policy Act
NHPA - National Historic Preservation Act
NMFS - National Marine Fisheries Service
NMSA - National Marine Sanctuaries Act
NMSS - National Marine Sanctuary System
NOAA - National Oceanic and Atmospheric Administration
NOS - National Ocean Service
NRHP - National Register of Historic Places
NSF - Naval Support Facility
OLE - NOAA Office of Law Enforcement
ONMS - Office of National Marine Sanctuaries
SAV - Submerged Aquatic Vegetation

SHPO - State Historic Preservation Office
SLA - Submerged Lands Act
SMCA - Sunken Military Craft Act
SMHA - Southern Maryland Heritage Area
TBNMS - Thunder Bay National Marine Sanctuary
UAS - Unmanned Aerial Systems
UCH - Underwater Cultural Heritage
USEFC - United States Emergency Fleet Corporation

EXECUTIVE SUMMARY

This FEIS analyzes impacts and evaluates a reasonable range of alternatives (including a no action alternative) associated with the proposed designation of Malloys Bay-Potomac River National Marine Sanctuary (MPNMS). This FEIS is also a resource assessment document that details the present and future uses of the areas identified for possible designation.

MPNMS is an approximately 18 square mile bay area of waters and submerged lands of the tidal Potomac River located 40 miles south of Washington, D.C., off the Nanjemoy Peninsula of Charles County, Maryland. It is an area of national significance featuring unique historical, archaeological, cultural, ecological, and aesthetic resources and qualities, and offers opportunities for conservation, education, recreation, and research. Its maritime landscape is home to a diverse collection of more than 100 known historic shipwrecks that date back to the Civil War, and potentially to the American Revolutionary War. Included among these vessels are the sunken fragile remains of the largest “Ghost Fleet,” wooden steamships built for the U.S. Emergency Fleet Corporation during WWI. The fleet was constructed at more than 40 shipyards in 17 states as part of a massive national wartime preparation. The sanctuary’s archaeological and cultural resources cover centuries of history from the earliest American Indian presence in the region about 12,000 years ago, to the Revolutionary War, Civil War, and two World Wars, as well as successive regimes of Potomac fishing industries. The significance of this area is recognized through its listing on the National Register of Historic Places (National Register Listing Number 15000173, April 24, 2015).

The proposed designation would allow NOAA to complement current state-led efforts to conserve and manage the nationally significant maritime cultural heritage resources while enhancing public awareness and appreciation, and facilitating to the extent compatible with the primary objective of resource protection, all public and private uses including recreation and tourism, as directed by the NMSA. The threats to these resources are related to actions or conditions that result in the damage or loss of the historic resources. Over time, direct damage to shipwrecks and artifacts has occurred both intentionally and unintentionally from breaking, redistribution, defacing and physical alteration, burning, and removal from the area. Additionally, indirect damage to the resources has occurred from the accumulation and entanglement of trash and marine debris around the resources and from weather-related processes such as wind, flood, and ice events.

The proposed sanctuary would concentrate on the protection, access, and interpretation of the maritime cultural features of the area, including the Ghost Fleet, other vessels of historic significance, and related maritime infrastructure. The state of Maryland currently has a comprehensive set of management measures for the protection of the natural environment, including wildlife, fish, birds, water quality, and habitat. As such, NOAA's proposed sanctuary regulations would focus only on the protection of the shipwrecks and cultural heritage resources. NOAA's proposed management actions will be primarily non-regulatory with a concise set of regulations focused on protecting the maritime cultural heritage resources. NOAA is also proposing to carry out education, science, and interpretative programs that describe for visitors and user communities the relationship between the shipwreck structures and the natural environment, described in Chapter 4. To further enhance existing management efforts in the area, NOAA will manage the sanctuary in partnership with the state of Maryland and Charles County, Maryland.

Background

1. Sanctuary nomination and public scoping

On September 16, 2014, pursuant to Section 304 of the National Marine Sanctuaries Act (NMSA) and the Sanctuary Nomination Process (SNP; 79 FR 33851), the governor of Maryland, acting on behalf of a coalition of community groups, submitted a nomination to NOAA seeking designation of Mallow's Bay-Potomac River as a national marine sanctuary. The nomination cited conservation goals to protect and conserve the fragile artifacts of the nation's cultural heritage, as well as the opportunities to expand public access, recreation, tourism, research, and education to the area.

Based on this nomination, NOAA began the sanctuary designation process on October 7, 2015. With the publication of a notice of intent (NOI; 80 FR 60634), NOAA informed the public that the agency intended to prepare a DEIS evaluating impacts and alternatives related to the proposed designation of MPNMS under the NMSA. That announcement initiated a 90-day public comment period during which time NOAA solicited public input on the size, scale, and scope of the proposed sanctuary, including ideas presented in the community nomination. The NOI also announced NOAA's intent to fulfill its responsibilities under the requirements of the NHPA.

During the 2015 scoping comment period, NOAA received 264 comments from individuals, businesses, organizations, and local, state, and federal agencies. The majority of comments NOAA received during the scoping period generally support the proposed sanctuary designation based on the value and significance of the natural, maritime, archaeological, and cultural resources within the area (including those related to Native American history and activities), the potential for ecological and archaeological research of the area's resources, and the economic and educational benefits of increased tourism and public access and awareness.

2. Sanctuary designation proposal

NOAA used these public comments to inform the preparation of the draft management plan, draft environmental impact statement, and the proposed sanctuary regulations. In response to the public comments, NOAA developed four alternatives for the proposed sanctuary (Figure ES1); the alternatives are set forth below:

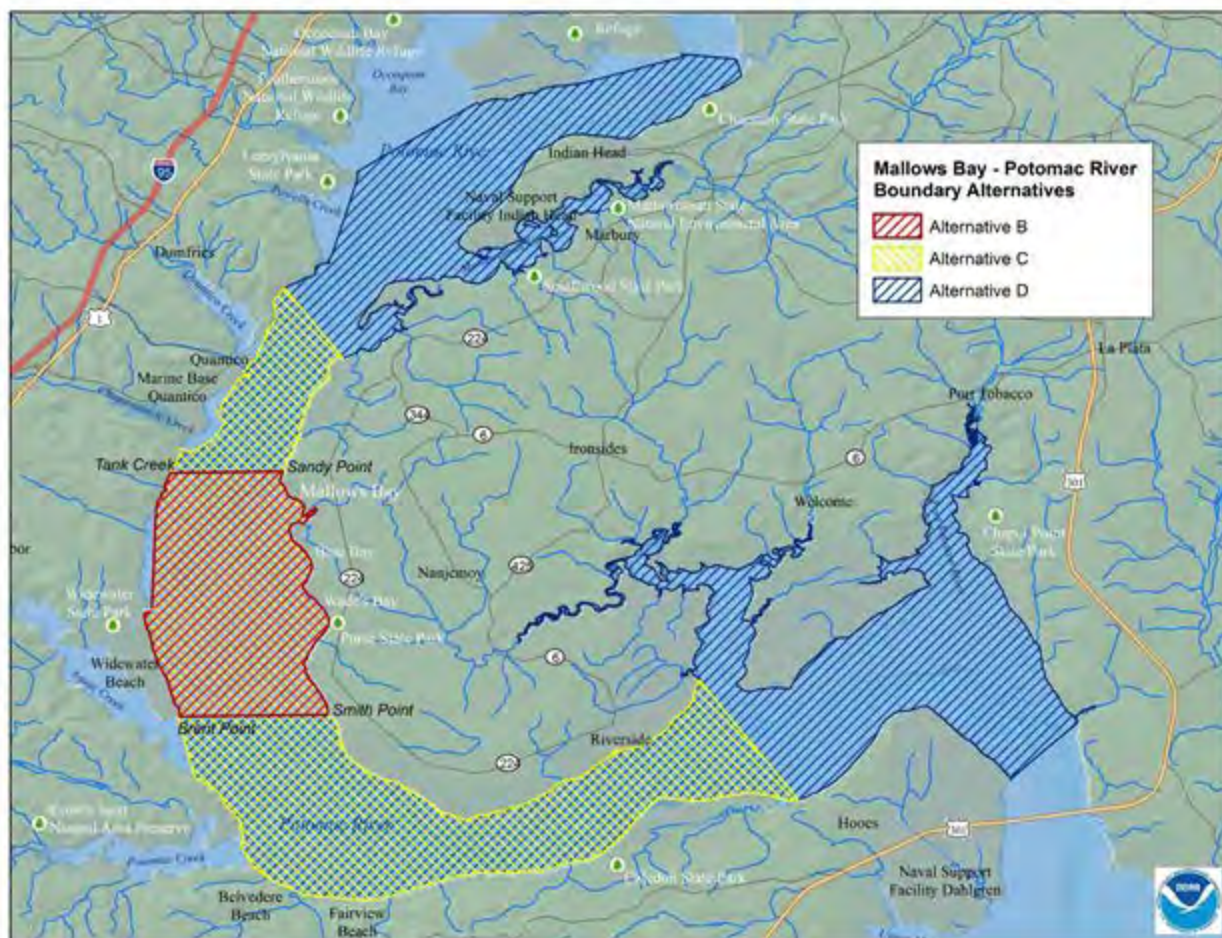


Figure ES1: Map of alternatives considered.

Alternative A -- No federal designation as a national marine sanctuary (the no-action alternative).

Alternative B -- Approximately 18 square miles of area that coincides with the boundaries of the Malloys Bay-Widewater Historical and Archeological District in National Register of Historic Places (NRHP). It includes the tidal waters at the northern boundary from Sandy Point, Maryland to Clifton Point, Virginia through the southern boundaries from Smith Point, Maryland to Brent's Point, Virginia and incorporates the waters of Wades Bay, Blue Banks, Malloys Bay, Liverpool Cove, and the Malloys Bay "Burning Basin" as far east as the egress for Marlow Creek into the basin itself. It includes at least these known maritime cultural heritage assets: (a) 134 known and three suspected vessels, including 118 WWI-era U.S. Emergency Fleet Corporation (USEFC) wooden steamships and vessels related to their breaking; (b) 16 other vessels not related to shipbreaking; (c) eight vessel debris piles; and (d) six non-vessel sites. In addition, this area is also rich in the history and culture of the Piscataway people, historic fisheries such as sturgeon and the caviar industry, and other battlescapes during the Revolutionary War and the Civil War. This alternative is slightly larger than the area originally submitted through the Sanctuary Nomination Process because it incorporates the Historical District boundaries that were developed with additional information not available during the nomination development. Those boundaries were subsequently updated in 2017 by the state of Maryland and Charles County after the nomination was submitted.

Alternative C -- Approximately 52 square miles of the tidal Potomac River. The northern boundary extends approximately 200 yards upstream of the Dominion Power lines near Ben Doane Road, Maryland to Possum Nose, Virginia. The southern boundary extends from the end of Owens Drive east of Chotank Creek, Virginia to Benny Gray Point, Maryland. The boundary encompasses all tidal waters within this boundary from mean high tide in Maryland to mean low tide in Virginia. In addition to the resources of Alternative B which would be incorporated, this alternative includes all of the known WWI-era USEFC vessels in Maryland waters, as well as a number of historically, archaeologically, and recreationally significant shipwrecks not currently included in the Historic District. Additionally, important maritime heritage features are dispersed throughout the waters and adjacent landscape, including the site of the first military balloon launch from a purpose built “aircraft carrier” in history; two major amphibious invasion operations; Confederate communications and contraband water routes during the Civil War; and the overall scene of the Union’s Potomac River blockade, 1861-1865.

Alternative D -- Approximately 100 square miles of the Potomac River. The northern boundary extends across the mouth of Pomonkey Creek from just south of Anne Mason Court in Indian Head, Maryland and then from Pomonkey Point, Maryland to Hallowing Point, Virginia. The southern boundary extends from Pope's Creek, Maryland to Persimmon Point, on Mathias Neck, Virginia. This area includes Mattawoman, Chicamuxen, Nanjemoy, and Port Tobacco creeks. On the Virginia side the line would extend to the Maryland-Virginia border line, namely the high water mark, all of which is in Maryland territory. This alternative incorporates all the maritime cultural heritage resources of Alternative C and would add additional area upstream and downstream from Alternative C that would support the visitor use goals of the sanctuary. No additional known historic shipwrecks will be captured in this alternative. However, there may be additional unknown maritime cultural heritage resources and the water escape route to Virginia by John Wilkes Booth will be included in this alternative. The increased size would also increase the representation of resources such as landings and wharves, as well as larger sections of routes of exploration, military action and commerce (steamships), and increase the overall perspective of the Union’s Potomac River blockade during the Civil War.

NOAA considered, but did not carry forward, two additional alternatives. One alternative considered was a one square mile area with the highest concentration of ships that would have included Malloys Bay, Liverpool Cove, and the Malloys Bay “Burning Basin,” as far east as the egress for Marlow Creek into the basin itself. The second alternative considered would have included the area described in the community-based nomination submitted to NOAA that has a slightly smaller boundary than the National Register Malloys Bay-Widewater Historical and Archeological District. In both cases, the alternatives were not carried forward for further analysis because the areas did not meet the purpose of this action, since they would not include the complete inventory of nationally significant maritime cultural heritage resources that the proposed action seeks to protect.

NOAA’s original preferred alternative included in the 2017 DEIS and proposed rule

In response to public comments and in consultation with the state of Maryland and Charles County, Maryland, NOAA identified Alternative C as the preferred alternative because the 52 square mile area would include all of the known WWI-era ship remains and related assets and provide more public access points to the nationally significant maritime cultural heritage resources. The environmental effects of this proposed designation and alternatives were analyzed in a DEIS published concurrently with a proposed

rule. NOAA also developed an associated DMP describing the comprehensive proposed management framework envisioned for the area, including non-regulatory programs and activities, actions, and strategies to promote opportunities for research, education, and recreation in the area.

From January 6, 2017 to March 31, 2017, NOAA solicited public comment on the proposed rule, DEIS, and DMP. During this period, NOAA received over 1,450 comments, including written comments, oral comments, and group letters. The vast majority of written comments expressed support for the proposed sanctuary, several expressed opposition, and a few did not take a position. Of those people who spoke at the public meetings, the majority expressed support, several were opposed, and a few expressed conditional support. Of the nearly 1,000 comments that specified a boundary alternative, most favored sanctuary designation, while several favored Alternative A (i.e., no action/no sanctuary). The majority of comments supported Alternative D because it offers the greatest number of public access points and extends protection to additional potentially known maritime cultural heritage assets. Supporters also favored Alternative D because they believed it offered increased protection of natural resources, although natural resource management is not proposed or being implemented for this sanctuary.

As a cooperating agency, the Department of the Navy (DoN) provided NOAA with comments on behalf of four military installations adjacent to the proposed sanctuary boundary alternatives. DoN also submitted a public comment stating support for the proposed sanctuary designation and expressing a desire to work with NOAA to ensure that the designation does not adversely impact area military operations.

Additional input on the proposal was provided to NOAA through consultation with federal and state agencies. As required by Section 106 of the National Historic Preservation Act, NOAA extended invitations for consultation to the three state-recognized Tribes: Piscataway Conoy Confederacy and Sub-Tribes (Maryland), Piscataway Indian Nation (Maryland), and the Patawomeck Indian Tribe of Virginia (Virginia). Members of the Piscataway Conoy Confederacy and Sub-Tribes (Maryland) and the Patawomeck Indian Tribe of Virginia (Virginia) supplied comments to NOAA.

NOAA's revised preferred alternative included in the FEIS and the final rule

As a result of public input received during the 2017 public comment period, NOAA identified Alternative B as the preferred alternative for sanctuary designation, as it best meets the purposes and needs of the sanctuary while taking into account considerations and insights gained through comments, discussions, and interactions with partners, constituents, and the general public. This alternative measures approximately 18 square miles and proposes (a) a coordinated and comprehensive management for the sanctuary; (b) meaningful opportunities to promote recreation and tourism in the area; and (c) programs and partnerships for interpretation, education, and science. Pursuant to Section 304 of the NMSA (16 U.S.C. 1434), NOAA will also issue a final rule to implement this sanctuary designation. NOAA does not anticipate any significant adverse impacts to resources or the human environment with sanctuary designation, but rather anticipates long term beneficial impacts with final designation.

The state of Maryland currently has a comprehensive set of management measures for the protection of the natural environment, including wildlife, fish, birds, water quality, and habitat. There is also a range of existing laws, regulations, and policies that apply to activities in the area of the proposed sanctuary. As such, NOAA's sanctuary regulations focus only on the protection of the shipwrecks and cultural heritage

resources. Authorities related to natural resources and their management remains with Maryland DNR, the Maryland Department of the Environment, the Potomac River Fisheries Commission, and other state and local jurisdictions. NOAA will carry out education, science, and interpretative programs that describe for visitors and user communities the relationship between the ship structures and the natural system.

How this document is organized

Chapter 1 describes the context for the designation within the National Marine Sanctuary System and the Sanctuary Nomination Process. Chapter 2 describes the purpose of and need for the action and the existing authorities for this area. Chapter 3 describes the range of alternatives considered to address the purpose and need. Chapter 4 describes the affected environment, including the maritime cultural heritage resources and socio-economic considerations. Chapter 5 describes environmental consequences associated with this action, including direct, indirect, and cumulative impacts for all the alternatives. Chapter 6 provides additional information pertaining to this action on required consultations and compliance approaches. Related documents are included as appendices, including the final management plan, the draft final regulations, responses to public comments, and the draft MOA for joint management.

Revisions from the DEIS

The FEIS incorporates the following changes to the DEIS:

- **Revised Proposed Action (i.e., preferred alternative).** As a result of input received during public review of the DEIS, NOAA identified its preferred alternative to be Alternative B, an approximately 18 square mile bay area of the waters and submerged lands of the tidal Potomac River. Alternative B contains a total of 142 historic shipwrecks, comprised of 118 WWI/USEFC vessels and related vessels, 16 other vessels, eight areas of documented historic debris, six documented non-vessel sites, three potential vessels, and known, but as yet undocumented, historic sites, such as ferry landings and potentially three additional shipwrecks.

NOAA developed this preferred alternative to best meet the purposes and needs of the sanctuary, while taking into account considerations and insights gained through comments, discussions, and interactions with partners, constituents, and the general public. As such, this alternative proposed (a) coordinated and comprehensive management for the sanctuary; (b) meaningful opportunities to promote recreation and tourism in the area; and (c) programs and partnerships for interpretation, education, and science.

- **Chapter 2: Purpose of and need for action**
 - **Section 2.3: Threats to target resources.** Updated and clarified the discussion of activities that may potentially damage resources.
 - **Section 2.4: Existing legal authorities.** Updated and reorganized summary of federal and state legal authorities, and revised the gap analysis related to existing authorities for target resources.
- **Chapter 3: Alternatives**
 - **Section 3.2: Description of alternatives.** Added Table 7 to clarify cultural resources inside and outside of the Historic District.

- **Chapter 4: Affected environment**
 - **Section 4.4.2: Protected species, p.84.** Updated information for critical habitat for Atlantic Sturgeon to reflect NMFS final rule (82 FR 39160) issued August 2017.
 - **Section 4.4.3: Birds, p.87.** Added information for the Nanjemoy Important Bird Area.
 - **Section 4.5.1: Water access and existing facilities.** Updates map (Figure 11) to reflect name change for Nanjemoy Wildlife Management Area (formerly Purse State Park).
- **Chapter 5: Environmental consequences**
 - **Section 5.3: Analysis of environmental consequences of alternatives.** Clarified environmental consequences inside and outside of the Historic District.
 - **Section 5.3.1: Alternative A: No action.** Updated to better describe existing authorities which would continue in absence of designation.
- **Chapter 6: Additional considerations**
 - **Section 6.1: Consultations and environmental compliance.** Updated information based on results of consultations.
- **Final Management Plan**
 - **Section 1.3: Malloys Bay-Potomac River National Marine Sanctuary: Preferred alternative, p.161.** Updated information to reflect 18 square miles.
- **Appendix C: Response to public comment on DEIS and draft rule.** Adds information from public comment period January 9, 2017 – March 31, 2017.
- **Appendix D: Draft Memorandum of Agreement for joint management of Malloys Bay-Potomac River National Marine Sanctuary.** Adds new information to codify operational details for joint management with state of Maryland and Charles County, Maryland.
- **Appendix E: Draft Version of the Final Rule and Terms of Designation for Malloys Bay-Potomac River National Marine Sanctuary.** Adds a draft copy of the final rule (including the terms of designation) as written at the time of the publication of the FEIS.

Summary of impacts

NOAA does not anticipate any significant adverse impacts to resources and the human environment stemming from sanctuary designation, but rather anticipates long term beneficial impacts arising from final designation. Specifically, NOAA believes that the Ghost Fleet and associated maritime cultural heritage resources in Malloys Bay could experience substantive positive effects from NOAA implementing the proposed action.



Chapter 1

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

This section places the designation of Malloys Bay-Potomac River National Marine Sanctuary (MPNMS) into the context of the mission of Office of National Marine Sanctuaries (ONMS) through the provisions of the National Marine Sanctuaries Act (NMSA).

1.1.1 The National Marine Sanctuaries Act

The NMSA (16 U.S.C. 1431 *et seq.*) is the organic legislation governing ONMS (<http://sanctuaries.noaa.gov/library/national/nmsa.pdf>). The NMSA authorizes the Secretary of Commerce to designate as a national marine sanctuary any discrete area of the marine and Great Lakes environment with special national significance due to its conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or aesthetic qualities. In addition to designating and managing these special places, the NMSA provides additional purposes and policies that guide how these areas are managed, including guidance to:

- Provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities (16 U.S.C. 1431 (b)(2));
- Enhance public awareness, understanding, appreciation, and wise and sustainable use of the marine environment, and the natural, historical, cultural, and archaeological resources of the National Marine Sanctuary System (16 U.S.C. 1431 (b)(4));
- Support, promote, and coordinate scientific research on, and long-term monitoring of, the resources of these marine areas (16 U.S.C. 1431 (b)(5));
- Facilitate, to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities (16 U.S.C. 1431 (b)(6));
- Develop and implement coordinated plans for the protection and management of these areas with appropriate federal agencies, state and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas (16 U.S.C. 1431 (b)(7)).

This document describes how the designation of MPNMS would meet the purposes of the NMSA.

1.1.2 Office of National Marine Sanctuaries

NOAA's National Ocean Service (NOS), ONMS is delegated authority by the Secretary of Commerce to serve as the trustee for a system of marine protected areas encompassing more than 600,000 square miles of ocean and Great Lakes waters from the state of Washington to the Florida Keys, and from New

England to American Samoa (Department of Commerce Organization Order No. 25-5, 7.08; Figure 1). Within their protected waters, giant whales feed, breed, and nurse their young, coral colonies flourish, and shipwrecks tell stories of our maritime history.

Sanctuary habitats include beautiful rocky reefs, lush kelp forests, whale migration corridors and destinations, spectacular deep-sea canyons, and underwater archaeological sites. The marine protected areas range in size from the one mile in diameter Monitor National Marine Sanctuary to almost 582,578 square miles in Papahānaumokuākea Marine National Monument in the Northwestern Hawaiian Islands. Each area is a unique place deserving of special protection. They serve as natural classrooms, cherished recreational spots, and places for valuable commercial activities. They represent many things to many people and are part of our nation's legacy to future generations.

ONMS raises public awareness of sanctuary resources and conservation issues through scientific research, monitoring, exploration, education, and outreach. ONMS provides oversight and coordination of the National Marine Sanctuary System by setting priorities for addressing resource management issues and directing program and policy development. To protect the living and non-living resources of sanctuaries, ONMS works cooperatively with the public in developing sanctuary management plans and regulations consistent with the NMSA.

NATIONAL MARINE SANCTUARY SYSTEM



Figure 1: Map of the National Marine Sanctuary System

1.1.3 Sanctuaries as marine protected areas

National marine sanctuaries are one type of marine protected area (MPA). NOAA defines an MPA as "...any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein" (E.O. 13158, 65 FR 34909). MPAs are geographical areas "where natural and/or cultural resources are given greater protection than the surrounding waters" (E.O. 13158, 65 FR 34909). MPAs can be located in the open ocean, coastal areas, inter-tidal zones, estuaries, or the Great Lakes. Each MPA is designated based on a specific purpose and managed based on the laws or regulations under which it is

designated. Examples of MPAs along Maryland's Atlantic coast include Assateague Island National Seashore and Chincoteague National Wildlife Refuge. Within the Chesapeake Bay, MPAs include Blackwater National Wildlife Refuge, Martin National Wildlife Refuge, Eastern Neck National Wildlife Refuge, and the U-1105 Black Panther Historic Shipwreck Preserve located in the Potomac River off Piney Point, Maryland. For more information on MPAs, please see <http://marineprotectedareas.noaa.gov/>. MPNMS will be the first of this type of national marine sanctuary in Maryland.

1.1.4 Comprehensive management of the National Marine Sanctuary System

The NMSA includes a finding by Congress that ONMS will “improve the conservation, understanding, management, and wise and sustainable use of marine resources” (16 U.S.C. 1431(a)(4)(A)). The NMSA further recognizes that “while the need to control the effects of particular activities has led to enactment of resource-specific legislation, these laws cannot in all cases provide a coordinated and comprehensive approach to the conservation and management of the marine environment” (16 U.S.C. 1431(a)(3)). Accordingly, ONMS subscribes to a broad and comprehensive management approach to meet the primary objective of resource protection in the NMSA. Each national marine sanctuary is designated to protect specific, nationally significant resources found in that area. Strong partnerships among resource management agencies, the scientific community, stakeholders, and the public at-large are needed to realize the coordination and program integration that the NMSA calls for in order to comprehensively manage national marine sanctuaries.

1.1.5 Sanctuary nomination process

On June 13, 2014, NOAA published a rule (79 FR 33851) that re-established a process by which communities may submit applications to have NOAA consider nominations of areas of the marine and Great Lakes environments as national marine sanctuaries. This rule contained the criteria and considerations NOAA will use to evaluate national marine sanctuary nominations, described the process for submitting national marine sanctuary nominations, and promulgated the regulations necessary to implement this action. NOAA reviews nominations against the established criteria and either accepts the nomination or returns it to the community for further development. Nominations describe the area that the community is interested in seeing designated as a national marine sanctuary, including the resources that make the area special and how the community would like to see the area managed. Once a nomination is accepted by NOAA it is placed onto an inventory of successful nominations that NOAA may consider for designation as a national marine sanctuary. Addition to the inventory does not guarantee that a nominated area will become a national marine sanctuary. National marine sanctuary designation is a separate process, which by law is highly public and participatory and often takes several years to complete. Nominations on inventory expire after five years if NOAA does not decide to begin a designation process for that area. All nominations are available at NOAA's website: www.nominate.noaa.gov/nominations/.

1.1.6 Sanctuary designation process

The NMSA authorizes NOAA to identify, designate, and protect areas of the marine and Great Lakes environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or aesthetic qualities as national marine sanctuaries. NOAA identifies areas to consider for national marine sanctuary designation through the community-based Sanctuary Nomination Process described above. The process for designating a new national marine sanctuary is described in the NMSA and has four steps:

- 1) Scoping: NOAA announces its intent to designate a new national marine sanctuary and asks the public for input on potential boundaries, resources that could be protected, issues NOAA should consider, and any information that should be included in the detailed resource analysis in a draft environmental impact statement.
- 2) Sanctuary Proposal: NOAA prepares draft designation documents including a draft management plan, draft environmental impact statement that analyzes a range of alternatives, proposed regulations, and proposed boundaries.
- 3) Public Review: The public, agency partners, tribes, and other stakeholders provide input on the draft documents. This step also includes the formal consultations required under the NMSA and other statutes. NOAA considers all input and determines appropriate changes.
- 4) Sanctuary Designation: NOAA makes a final decision and prepares final documents. Before the designation becomes effective, the governor reviews the documents. Congress also has the opportunity to review the documents.

1.2 BACKGROUND

1.2.1 Community nomination for Mallows Bay-Potomac River

On September 16, 2014, pursuant to the Sanctuary Nomination Process (79 FR 33851), the governor of Maryland, acting on behalf of a coalition of community groups and a steering committee, composed of representatives of county government, tourism agencies, non-profit organizations, and private citizens among other groups, submitted a nomination asking NOAA to designate Mallows Bay-Potomac River as a national marine sanctuary. The Mallows Bay area of Maryland's tidal Potomac River is located 40 miles south of Washington, D.C., off the Nanjemoy Peninsula of Charles County, Maryland. The nominated area of approximately 14 square miles included waters and submerged lands along the Potomac River that begin at the mean high tide water mark off Sandy Point and extend westward to the low water line just east of the Maryland-Virginia border near Clifton Point, Virginia. From there, the area extends southward following the Maryland-Virginia border to Brent's Point, Virginia. It then extends northeast to Smith Point, Maryland and follows the low water mark north along the Maryland shoreline back to Sandy Point. This area includes the waters of Wades Bay, Blue Banks, Mallows Bay, Liverpool Cove, and the Mallows Bay "Burning Basin," as far east as the egress for Marlow Creek into the basin itself. The boundary description contained in the nomination package was intended to match the boundaries of the Mallows Bay-Widewater Historic and Archeological District and was comprised only of property (land, submerged lands, and/or waters) that is owned by the state of Maryland, which has jurisdiction over the Potomac River to the mean low tide on the Virginia shore.¹

The community nominated this area of national significance because it features unique historical, archaeological, cultural, ecological, and aesthetic resources and qualities, which offer opportunities for conservation, education, recreation, and research. Its maritime landscape is home to a diverse collection of historic shipwrecks potentially dating back to the Revolutionary War through the present, including the remains of the largest "Ghost Fleet" of WWI, wooden steamships built for the U.S. Emergency Fleet

¹ When finalized, the Mallows Bay-Widewater Historic and Archeological District was one square mile larger than the community nominated area submitted to NOAA for consideration.

Corporation (USEFC). The area's archaeological and cultural resources cover centuries of history from the earliest American Indian presence in the region, dating to approximately 12,000 years ago, to the roles that this area played in the Revolutionary War, Civil War, and two World Wars, as well as in successive regimes of Potomac fishing industries. Its largely undeveloped landscape and waterscape have been identified as one of the most ecologically valuable areas in Maryland, providing important habitat for fish and wildlife, including rare, threatened, and endangered species.

The nomination included goals to protect and conserve the fragile remains that represent an important aspect of the nation's maritime cultural heritage, as well as expanding opportunities for public access, recreation, tourism, research, and education in the Malloys Bay area of the tidal Potomac River. The nomination described the national significance of the area and addressed management considerations, such as opportunities to expand education and research in the area.

Additionally, the nomination described the community's major goals for a proposed MPNMS:

- (1) Protect, systematically study, interpret, and manage the extensive maritime, archaeological, and historical resource base therein through cooperative partnerships with extant educational, county, state, and national agencies, as well as community-based interest groups and professional organizations.
- (2) Study, assess, interpret, and preserve the unique and evolving ecosystem as a living laboratory, as well as its integral relationship to the archaeological resource base.
- (3) Manage and enhance public access, recreation, heritage tourism, and ecotourism.
- (4) Develop interpretive programs, exhibits, water trails, and public outreach to schools, community forums, and other interested institutions by relating the prehistory, history, and unique ecological evolution of the sanctuary area and its natural and historical resources, and its relationship to the larger landscape of the American environment and its maritime cultural heritage.
- (5) Provide educational opportunities and field study programs with the Charles County School System, the College of Southern Maryland, St. Mary's College, and other regional educational institutions, as well as general public education and outreach, especially via Science, Technology, Engineering and Mathematics (STEM) programs through the site's importance as a living laboratory.
- (6) Enhance federal, state, local, and private partnerships working to conserve and promote the historic, cultural, natural, archaeological, recreational, educational, scientific, and aesthetic resources of the area.
- (7) Facilitate and advance the ongoing restoration of the Chesapeake Bay watershed and in particular, that of "The Nation's River," as President Lyndon Johnson once called the Potomac River, by serving as a hub area for research and documentation of environmental change.
- (8) Utilize the designation to responsibly market a high quality visitor experience to domestic and international visitors.

On January 12, 2015, after completing the detailed review process, NOAA added the Mallows Bay-Potomac River nomination to the inventory of areas that could be considered for sanctuary designation under the NMSA. The full nomination package and information on the designation status are available at: www.nominate.noaa.gov/nominations/nomination_maryland_mallows_bay_potomac_river.pdf.

1.2.2 Public and agency involvement

In accordance with sections 303 and 304 of the NMSA (16 U.S.C. 1433, 1434) and the Council on Environmental Quality (CEQ) regulations (40 CFR 1506.6(a)) implementing NEPA, NOAA involved the public and other federal agencies in the sanctuary designation and environmental review process. The steps taken to satisfy the public and agency involvement requirements are detailed below.

Public scoping

NOAA began the sanctuary designation process for Mallows Bay-Potomac River on October 7, 2015 with the publication of a notice of intent (NOI; 80 FR 60634) in the Federal Register. In the NOI, NOAA informed the public that the agency intended to prepare a draft environmental impact statement (DEIS) evaluating impacts and alternatives related to the proposed designation of Mallows Bay-Potomac River under the NMSA and concurrent with the public process required under the National Environmental Policy Act (NEPA). The NOI also announced NOAA's intent to fulfill the agency's responsibilities under the requirements of the National Historic Preservation Act (NHPA).

The NOI initiated the public scoping phase of the designation process with a 90-day public comment period during which NOAA solicited input on the range of issues to be considered in an environmental impact statement to designate this area as a national marine sanctuary. NOAA specifically asked for information that would assist in the development of alternatives, including proposed regulations and boundaries. NOAA accepted public comments by mail and through a web portal (<https://www.regulations.gov/#!docketDetail;D=NOAA-NOS-2015-0111>). NOAA also hosted two public scoping meetings. The first scoping meeting was conducted on November 4, 2015 in La Plata, Maryland, where approximately 125 people attended and 51 oral and written comments were received. The second meeting occurred on November 10, 2015 in Annapolis, Maryland. Approximately 100 people attended that meeting, and 23 oral and written comments were received. The comment period closed on January 15, 2016.

During the scoping comment period, NOAA received a total of 264 written and oral comments (including those comments received during the public scoping meetings). The majority of comments received during the scoping period strongly supported the proposed sanctuary designation based on the considerable value and significance of the natural, maritime, archaeological, and cultural resources within the area including those related to Native American history and activities, the immense potential for ecological and archaeological research of the area's resources, and the economic and educational benefits of increased tourism and public access and awareness. Several of the comments note that a sanctuary designation would help restore the Chesapeake watershed, economically revitalize the local area, and help promote heritage and ecotourism, which, as a few comments indicate, supported Presidential Obama's Executive Order 13508 instructing federal agencies to support the restoration of the Chesapeake Bay. Several comments opposed the nomination predominantly citing opposition to the possibility of increased

government intervention, specifically regarding fossil collection and fishing activities that they perceived would be adversely impacted by a sanctuary designation.

The comments also identified boundary alternatives for consideration in the development of the DEIS. Several comments supported the boundary proposed in the sanctuary nomination package that was intended to align with the boundary of the Malloys Bay-Widewater Historical and Archeological District submitted by the state of Maryland (National Register Listing Number 15000173, April 24, 2015). NOAA also received considerable support for an expanded boundary. More specifically, a few comments supported a northward expansion to Mattawoman Creek, but most of the comments supported a larger boundary extending from Chapman Park in the north to Chapel Point in the south. One comment suggested an even larger northern boundary extending to Piscataway Creek.

Most of the support for the expanded boundaries was based on the benefits and protection that the commenters felt a larger boundary would provide to the significant natural and maritime cultural heritage resources in the area. Many comments supported incorporating and protecting additional nationally significant maritime cultural heritage resources beyond the resources in Malloys Bay, specifically those related to the American Revolution and the Civil War, some of which are located beyond the nomination boundary; a few comments stated that the historically significant cultural heritage resources associated with the fisheries industry should be considered in the development of boundary alternatives. Many comments based support on the protection and conservation of valuable species and habitats in the expanded boundaries. Several comments also conditioned their support on conserving and protecting the local fisheries. Several other comments supported the boundary expansions based on the benefits that the expanded boundaries could provide to the local area and specific resource use, including recreation, tourism, public access and awareness, research, and education.

Several comments did not support a boundary expansion, citing issues related to management, local impact, and government overreach. Some comments expressed concerns regarding how the boundaries would affect Virginia and one comment noted that Virginia should be excluded from the sanctuary boundary. One business submitted a comment of support conditioned on a limited boundary and the inclusion of language prohibiting future expansion. Several comments supported the application of a more restrictive regulatory framework in the area, specifically regarding fishing and public access. Many comments argued for limited boating and fishing access, citing the need to protect the archaeological and ecological integrity of the area and to prevent overuse and overdevelopment. Conversely, several supporting comments argued that no regulations should be implemented that restrict fossil collection and local fishing.

Additional comments included suggestions to add a migratory bird refuge to the area, to add “Potomac” to the sanctuary name, and to designate the sanctuary by April 2017; commenters noted that this date coincides with the centennial of the U.S. entry into WWI and is concurrent with the target date set for reaching Chesapeake Bay Total Maximum Daily Load (TMDL) Milestones. Several comments supported increased collaboration between local, state, and federal authorities in both Virginia and Maryland; a few comments also supported a partnership with the College of Southern Maryland.

Finally, several comments argued for the addition of infrastructure and a visitor center. Comments specifically supported adding more public launches and access points, more land and water trails, and land and water signage that includes navigation and obstruction markers, camping areas, and observation

points. It was asserted that these additions would enhance formal and informal educational outreach opportunities, support science and education programs, help users interpret the historical, cultural, and ecological resources in the area, and provide information necessary to mitigate threats to the maritime and natural resources.

Development of the proposed sanctuary regulations, draft management plan, and draft environmental impact statement

Whenever NOAA seeks to designate a national marine sanctuary, Section 304(a)(2) of the NMSA requires the agency to prepare sanctuary designation documents on the proposal (16 U.S.C. 1434(a)(2)). The sanctuary designation documents include, among other materials: 1) a DEIS prepared pursuant to the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*); 2) a resource assessment document covering present and potential uses of the area considered for proposed sanctuary designation; 3) a draft management plan that includes, among other things, the terms of the proposed designation, proposed mechanisms to coordinate existing regulatory and management authorities within the area, a description of the proposed management framework, an evaluation of the advantages of cooperative management if any part of the area proposed for designation is located in state waters (including the cost to the Federal government); and 4) proposed sanctuary regulations (16 U.S.C. 1434(a)(2)).

These designation documents were prepared in close consultation with the state of Maryland and Charles County, Maryland. NOAA used the public comments submitted during the scoping process to inform the preparation of and development of the boundary alternatives in the DEIS, and in the preparation of the proposed sanctuary regulations and DMP. The DEIS serves dual purposes; it serves as a resource assessment under the NMSA, documenting present and potential uses of the areas considered in the alternatives. The DEIS also demonstrates that there was strong public support for the protection of nationally significant maritime cultural heritage resources in the area considered for potential sanctuary designation. The DEIS also incorporates the need for enhanced recreation and access to the proposed sanctuary to support tourism and the local economy.

NOAA worked closely with, and sought input from, resource agencies on the development of the DEIS, the proposed sanctuary regulations, and the DMP. In a letter dated August 2016, the Department of the Navy (DoN) expressed an interest in becoming a cooperating agency. The DoN has four military installations adjacent to the proposed boundary alternatives considered in this DEIS. NOAA accepted DoN's offer in September 2016.

In the DEIS, NOAA developed a reasonable range of spatial alternatives for rigorous exploration and objective evaluation. The four alternatives, including a no action alternative, are detailed in Chapter 3 "Description of Alternatives" in the DEIS. Based upon input received during the public scoping process, NOAA adopted Alternative C as the preferred alternative in the DEIS. Alternative C would designate an approximately 52 square mile bay area of waters and submerged lands of the tidal Potomac River as a national marine sanctuary and would protect approximately 175 known shipwrecks and other related historic properties, as well as a number of suspected historic resources.

Public review of the proposed sanctuary regulations, draft management plan, and draft environmental impact statement

On January 9, 2017, NOAA published a notice of proposed rulemaking in the Federal Register announcing the proposal to designation as a national marine sanctuary approximately 52 square miles of waters and submerged lands of the tidal Potomac River located adjacent to the Nanjemoy Peninsula of Charles County, Maryland (82 FR 2254). Availability of the related DEIS/DMP was also published in the Federal Register (82 FR 2254; 82 FR 1733), and announced on various email lists, local newspapers, and the federal, state, and local Mallow Bay websites concerning the proposed designation. NOAA held an 81-day public comment period on the proposed rule, DEIS, and DMP. The public comment period closed on March 31, 2017.

During the public comment period, NOAA received 1,120 written comments through the eRulemaking Portal <http://www.regulations.gov>. NOAA also hosted two public hearings on March 7, 2017 in La Plata, Maryland, and March 9, 2017 in Arnold, Maryland. Over 170 people attended the meetings, with 73 people providing oral public comment. Additionally, through the National Marine Sanctuary Foundation (NMSF), NOAA received two letters signed on behalf of multiple organizations; one was signed by 133 individuals in support of designation of NOAA's preferred alternative and the second was signed by 128 organizations in support of designation for MPNMS and a separate action relating to the proposed designation of new national marine sanctuary in Wisconsin's Lake Michigan waters (82 FR 2269).

Of the over 1,450 comments received, including written comments, oral comments, and group letters, the vast majority of people expressed support for the proposed sanctuary, several expressed opposition, and a few did not take a position. Of those people who spoke at the public meetings, many expressed support, several were opposed, and a few expressed conditional support.

As a cooperating agency, the DoN provided NOAA with comments on behalf of four military installations adjacent to the proposed sanctuary boundary alternatives. NOAA and DoN worked together to review potential impacts of the sanctuary designation on military facilities and operations, and cooperated to resolve conflicts. DoN also submitted a public comment stating their support for the proposed sanctuary designation and expressing their desire to work with NOAA to ensure that the designation does not adversely impact military operations.

NOAA also worked with the U.S Coast Guard (USCG) to address concerns related to law enforcement. On December 22, 2016, NOAA requested input and began discussions with local USCG personnel. On February 2, 2018, USCG notified NOAA that they have no objections to MPNMS designation.

Additional input on the proposal were provided to NOAA through consultation with federal and state agencies as well as three state-recognized tribes: Piscataway Conoy Confederacy and Sub-Tribes (Maryland), Piscataway Indian Nation (Maryland), and the Patowomeck Indian Tribe of Virginia (Virginia).

Of the nearly 1,000 comments that specified a boundary alternative, most favored either B, C, or D, while several favored A (i.e., no action/no sanctuary). The majority of comments supported Alternative D for purposes of public access and protection for additional maritime cultural assets. Supporters of this alternative also cited its increased protection of natural resources, although natural resource management is not proposed or being implemented for this sanctuary. Several comments supported NOAA's draft preferred alternative (Alternative C), as did those who signed a letter of support through the NMSF. Of the comments that did not specify a boundary alternative, the majority supported a sanctuary designation.

NOAA received many comments supporting the beneficial impacts from designation, including to cultural resource protection, WWI-era and other wrecks, public access, education, and enhanced visitor services in the area.

NOAA received several comments opposing or questioning the need for sanctuary designation. Some comments stated the shipwrecks are already protected by the state of Maryland, and some others stated that the wrecks are not nationally significant. Some comments expressed concern that sanctuary designation would be an infringement on state, local, or tribal sovereignty. In addition, some comments expressed concern about whether sanctuary designation would impact local businesses, including recreational and commercial fishing.

A summary of these comments and the corresponding responses from NOAA are included in Appendix C of this FEIS.

1.2.3 Revisions to the DEIS and preparation of the FEIS

NOAA has prepared this FEIS in consideration of the public comments received and consultations with federal, state, and tribal entities. After publication of this FEIS, a 30-day mandatory waiting period will occur, and then NOAA may issue its record of decision (ROD). In addition, a final rule that promulgates the regulations and terms of designation of the sanctuary would be published in the Federal Register.

1.2.4 Scope of FEIS

This FEIS, along with the FMP and final rulemaking, comprise the final designation documents for the national marine sanctuary designation. This FEIS analyzes the environmental impacts of alternatives for the designation.

This document also serves as a resource assessment for the study area that describes both the maritime cultural heritage resources that the sanctuary will manage, as well as the ecological setting that will not be included in the sanctuary resources and therefore not managed by the sanctuary. The FMP (see Appendix A) describes the non-regulatory management action plans for the area and the rulemaking describes regulations for the FEIS preferred alternative.



Chapter 2

PURPOSE OF AND NEED FOR ACTION

2.1 PROPOSED ACTION

The proposed action is to designate MPNMS. The designation will help conserve at-risk, nationally-significant maritime cultural heritage resources through the promulgation of regulations and development of a management plan.

NOAA is proposing to manage MPNMS collaboratively with the state of Maryland and Charles County, Maryland. The Maryland Historical Trust, within the Department of Planning, and the Department of Natural Resources, will represent the state of Maryland. NOAA proposes to establish the framework for joint management in the sanctuary regulations. The operational details of the collaboration will be established in a Memorandum of Agreement (MOA). Details on the execution of sanctuary management such as activities, programs, and permitting programs are included in the MOA (Appendix D). In addition, NOAA will form a Sanctuary Advisory Council composed of representatives from a broad range of user groups and interested organizations to provide advice to the NOAA sanctuary superintendent regarding the evolving priorities for site management.

2.2 PURPOSE OF AND NEED FOR ACTION

2.2.1 Purpose of action

The purpose of the proposed action is to fulfill the purposes and policies of the NMSA, which are to identify and consider areas of the marine environment for proposed designation as a national marine sanctuary, to conserve and manage the nationally significant maritime cultural heritage resources while enhancing public awareness and appreciation, and to facilitate, to the extent compatible with the primary objective of resource protection, all public and private uses, including recreation and tourism as directed by the NMSA. The NMSA authorizes the Secretary of Commerce to designate and manage discrete areas of the marine environment as national marine sanctuaries (16 U.S.C. 1433). Such designation is based on attributes of special national significance, including conservation, recreational, ecological, historical, scientific, cultural, archaeological, education, or aesthetic qualities. The NMSA provides NOAA with the authority for comprehensive and coordinated management that complements existing regulatory authorities and directs NOAA to manage these areas in a way that enhances “public awareness, understanding, appreciation, and wise and sustainable use” (16 U.S.C. 1431(b)(4)). The purpose of the proposed action is also to further NOAA’s mission, to conserve and manage coastal and marine ecosystems and resources.

The proposed action alternatives (alternatives B, C, and D) described in this FEIS would protect the maritime cultural heritage resources in Malloys Bay and adjacent areas of the Potomac River by establishing a national marine sanctuary. Those alternatives would provide for coordinated and

comprehensive management and conservation of maritime resources through the joint management of the area by NOAA, the state of Maryland, and Charles County, Maryland. Those alternatives would also provide opportunities to promote recreation and tourism in the area along with research and education efforts.

2.2.2 Need for action

The need for the proposed action is based on ongoing threats to the maritime cultural heritage resources in this area of the Potomac River. This proposed action responds to a nomination submitted to NOAA by the governor of Maryland on behalf of a broad coalition of community groups, including state and local partners. The community nomination requested that the area be designated as a national marine sanctuary to preserve the maritime cultural heritage resources and to provide increased opportunities for research, education, recreation, and tourism. Although the Maryland Submerged Archaeological Historic Property Act (Md. Code Ann., State Fin. & Proc. 5A-333 *et seq.*) provides a basic level of protection for maritime cultural heritage resources in Mallows Bay and adjacent areas of the Potomac River, the proposed action would allow NOAA's management under the NMSA to supplement and complement the existing authority and the current management work in the area.

The need for designating the area as a national marine sanctuary was strongly supported during the public scoping process and the public comment period following publication of the DEIS. Public comments supported the goals of preservation and increased opportunities as described above.

2.3 THREATS TO TARGET RESOURCES

This proposed action targets maritime cultural heritage resources primarily composed of shipwrecks from the remains of the USEFC WWI fleet and the associated wet infrastructure (i.e., historic piers, wharves, landings) that were defined as significant through the designation of the Mallows Bay Historic District on the National Historic Register of Places in 2015. The action extends to other known and suspected shipwrecks that are part of the same WWI-era fleet, but are located in areas outside of the boundary defined by the NRHP, under the NHPA. Additionally, the action includes other known and suspected shipwrecks that are not part of the WWI-era fleet, but have similar qualities pertaining to national significance for the Revolutionary War, the Civil War, and other periods. More information on the specific maritime cultural heritage resources included in each of the action alternatives (alternatives B, C, and D) is included in Chapter 3.

The threats to the target resources are related to actions or conditions that result in the damage or loss of the historic resources. Over time direct damage has been observed from human and environmental sources that cause breaking, redistribution of shipwrecks and/or artifacts, defacing and physical alteration, and burning. Additionally, resources have been lost due to legal and illegal removal of artifact from the area.

A range of activities in the area both intentionally and unintentionally threaten the resources with direct damage. Anchoring, particularly large or heavy anchors, and vessel collisions in the area of the historic resources can result in unintentional damage since the resources may not be easily identified due to high water levels or low water visibility. Lack of public understanding of the significance of the shipwreck

resources may also result in intentional anchoring that damages resources. Walking or climbing on the portions of shipwrecks above water is a safety hazard and can result in unintentional damage to the fragile parts of the shipwrecks, and intentional damage from people tying off on the resources, moving or removing sections of the resources, setting the resources on fire as seen in 2016 (Dr. Susan Langley, Maryland State Underwater Archaeologist, Maryland Historical Trust, personal communication), and leaving behind trash that damages the resources. Damage is also possible from collisions with unmanned aircraft, also called “drones,” and objects towed behind boats, based on recent events in national parks and in or adjacent to other national marine sanctuaries. People can also cause intentional damage by removing or moving portions of the shipwrecks that are underwater. Damage can occur from oil or hazardous material spills elsewhere on land or in the Potomac River that reach the area and impact the shipwreck resources.

Indirectly, the accumulation and entanglement of trash and marine debris dumped in the Potomac River around the resources have resulted in damage to the resources. Debris has been known to accumulate and entangle on shipwrecks and associated biota. Marine debris is defined by NOAA as any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment (15 C.F.R. 909.1(a)). Since the Marine Plastic Pollution Research and Control Act of 1987 (Title II of Public Law 100-220) restricts the overboard discharge of garbage into any waterway of the United States, the direct discharge of any garbage into the Potomac River is illegal. However, there is no state of Maryland law that regulates marine debris or garbage that indirectly makes its way into Maryland state waters. Maryland manages abandoned vessels, large floating debris, and other hazards to navigation through the Maryland Abandoned Boat and Debris Program, administered through the Department of Natural Resources Boating Services.

Weather and climate change-related processes such as hurricane, wind, flood, and ice events in the Mallows Bay area are also a known source of indirect damage to the resources. Boesch et al. (2013) found that Maryland is especially vulnerable to the impacts of climate change. Its coastal waters are expected to rise 2.1 feet by the year 2050 and 3.7 feet or more by the century’s end. A rise in sea level is also likely to cause higher tides in Chesapeake Bay, where an increase of about 3 feet in sea level could lead to an increase of 4-6 inches in the section of the Potomac River bordering Charles County. While the frequency of tropical storms is not projected to increase as a result of global warming during the 21st century, highly intense storms are projected to become more common. Modern record storm surges of more than 7 feet were experienced in portions of the Chesapeake Bay during Hurricane Isabel in 2003; storm surge levels were highest in the uppermost bay and tidal Potomac River near Washington, D.C. Warming of sea surface temperatures also means tropical storms should maintain more of their intensity as they progress to the higher latitudes along the Mid-Atlantic coast. Several of the ships within Mallows Bay have been lifted and shifted during storm events, and this potential for change and damage is anticipated to increase. Educating visitors about the weather and climate change-related processes that could impact the sanctuary historic resources will help build awareness of these known threats.

Large and heavy anchors, the use of commercial fishing nets and lines, and pound net anchoring could cause damage depending on the location of the activity relative to target resources. Pound nets are defined in Maryland regulation (COMAR 08.02.05.01) as a fixed entrapment gear consisting of: (a) a net body or crib measuring at least 16 feet long by 16 feet wide at the surface of the water with a netting floor and open top; (b) mesh webbing with a twine size of #12 or larger; (c) at least one heart leading into the crib;

and (d) a leader or hedging. Pound net sites in the Maryland portion of the Chesapeake Bay and its tributaries must be registered with the Department of Natural Resources. Sites in the Potomac River are registered with the Potomac River Fisheries Commission (PRFC). Fishing activities in the sanctuary are currently and will remain under the jurisdiction of PRFC and the state of Maryland. MHT (as part of the Maryland Department of Planning) has agreed to work with PRFC to identify sensitive areas to avoid prior to the opening of their annual licensing period, which begins from November to January. Although the use of these types of commercial fishing equipment are a potential threat, the risk to the historic resources is low. If the location of the historic resources is known, then it is believed that commercial user groups would take steps to avoid the area in order to minimize the risk of loss or destruction of fishing gear or equipment that might potentially arise from snagging historic resources. However, fishing-related threats may be slightly greater from recreational or occasional users who are not familiar with the area and are unaware of wreck locations. Educating boaters about the location of the historic resources and encouraging the use of small anchors (e.g., mushroom anchors) will help boaters avoid damage to the resources.

Dredging in the navigable channels of the Potomac River could potentially be conducted by both the state of Maryland and the U.S. Army Corps of Engineers. However, reviews of dredging records dating back to the 1970s show that Maryland has not assisted with any dredging projects along the Potomac River area considered in this action. The closest dredging project is at Friendship Landing in Nanjemoy Creek, which is located approximately 16.7 miles downstream of Malloys Bay and within the boundary for Alternative D. Maryland records also do not show any U.S. Army Corps of Engineers dredge projects in this area. Any future dredging projects in the Potomac River, by public or private groups, would come through Maryland review and concerns about the impacts on historic resources can be addressed on a case-by-case basis.

The collection of fossils through digging in the area also has the potential to unintentionally damage the historic resources proposed for protection by the sanctuary. Additional education efforts to help visitors understand where the historic shipwrecks are located and how to differentiate protected sanctuary resources from fossils will enable fossil collectors to avoid damage to the historic shipwreck resources.

2.4 EXISTING LEGAL AUTHORITIES AND GAP ANALYSIS

The focus of this proposed action is on the protection of shipwrecks and associated maritime cultural heritage resources. The state of Maryland currently has a comprehensive set of laws, regulations, and management measures for the protection of the natural environment, including wildlife, fish, birds, water quality, and habitat (see Appendix B). State and federal laws also protect maritime cultural heritage assets from looting, unwanted salvage, and other activities that threaten, damage, or cause loss. However, each of these laws have important gaps for which the NMSA would complement and/or supplement existing statutes. Below, each state and federal statute is summarized. The summary includes a discussion about the capability of each statute to control impacts to the target resources, identifies the sanctions that may apply for violations, and analyzes the gaps that each statute fills or leaves with regard to protecting the target resource. The discussion concludes with an analysis of the National Marine Sanctuaries Act, and identifies how the NMSA could potentially fill the gaps in protection identified under each statute.

2.4.1 State of Maryland laws directed to protect maritime cultural heritage assets

Maryland Submerged Archaeological Historic Property Act, Md. Code Ann., State Fin. & Proc. 5A-333 et seq.

Summary

The Maryland Submerged Archaeological Historic Property Act establishes a framework for the preservation and management of the state's heritage and enriches present and future generations with the cultural, educational, inspirational, social, and economic benefits of the past. The term “submerged archaeological historic property” is broadly defined as any underwater structure, remains, or object that yields or is likely to yield information significant to the study of human prehistory, history, or culture, and that is so embedded in underwater land that excavation tools are needed to move the bottom sediments and has remained unclaimed for at least 100 years, or is included or eligible for inclusion into the NRHP. The act establishes that the state of Maryland retains a property interest in historical or archaeological objects of value and interest found on a submerged or terrestrial archaeological site on land over which the state has sovereign control. As such, the act requires a person who knows the location of an archaeological site in the state to give the information to, and deposit historical or archaeological objects for permanent preservation with, a reputable museum, an institution of higher education, or another recognized scientific or historical institution.

The act further authorizes the MHT to establish a program for the issuance and administration of permits for activities relating to submerged archaeological historic property. Consistent with this authority, the act makes it unlawful for any person to excavate, remove, destroy, injure, deface, or disturb submerged archaeological historic property on land over which the state of Maryland has sovereign control without a permit issued by the MHT.

There are two recognized exceptions to the permit requirement. Under the act and implementing regulations at COMAR 34.04.03.03, a person does not need a permit to:

- Inspect, study, explore, photograph, measure, record, or otherwise use and enjoy submerged archaeological historic property if the use does not involve excavation, removal, destruction, injury, or disturbance of the submerged archaeological historic property or its immediate environment, endanger other person or property, or violate any law; or
- Collect and remove a limited number of objects (no more than 5 items from any single site) that: (i) collectively weigh no more than 25 pounds; (ii) are exposed and are not embedded in bottom sediments of submerged lands; (iii) do not require excavation to recover; and (iv) are recoverable by hand or with size-specified screwdriver, wrench, or pliers.

However, special rules apply to sites that are listed or eligible for listing in the Maryland Register of Historic Properties (Historic Register).

Under these special rules, a person may not collect, transfer, sell, demolish, destroy, substantially alter, or allow to deteriorate significant artifacts from a site that has been included in or determined eligible for inclusion in the Historic Register. The Historic Register is a list of properties considered by the state of Maryland as worthy of preservation for significance in American history and culture. Established in 1985

by the Maryland General Assembly, the Historic Register is administered by the MHT and includes districts, buildings, sites, and objects. Inclusion in the Historic Register requires that a property be listed in the NRHP or determined eligible by the Director of the MHT applying the criteria listed in COMAR 34.04.05.07 and using procedures set out COMAR 34.04.05.06. See below for more information on the National Historic Preservation Act.

Potential sanctions for violations

A violation of the Maryland Submerged Archaeological Historic Property Act is a misdemeanor. On conviction, a person without a permit who violates the act may be subject to a maximum of 30-days imprisonment and/or a maximum fine of \$1,000 for each day a violation occurred. Court costs may also be imposed. A violation of the act by a permit-holder may result in loss of the permit and may subject the permit-holder to a maximum of one year imprisonment and/or a maximum fine of \$10,000 for each day a violation occurred and, again, court costs also may be imposed.

Gap analysis related to existing authorities for target resources

A review of the Maryland Submerged Archaeological Act reveals two potential gaps: one in the area of protection, and the other in the area of prosecution and enforcement.

The gap in protection arises from the statutory/regulatory exception under which up to five historic objects that collectively weigh less than 25 pounds from a single site may be removed (hereinafter called “the limited removal/collection exception”). The scope of this exception is vague. No time limit is specified so it is unclear if removals are authorized up to five per visit, per day, per month, or some other period of time. The regulations also do not specify if the limit is per person, per group, per site, or some other metric. In this instance, the gap in protection is partially filled because the area comprising the preferred alternative is listed under the NHPA. Under Maryland law, the limited removal/collection exception does not apply to objects that are listed or eligible for listing in the Historic Register. All of the shipwrecks in the preferred alternative are included in the Malloys Bay-Widewater Historical and Archaeological District established under the NHPA, and thus are exempt from the limited removal/collection exception. The limited removal/collection exception also may not apply to shipwrecks found outside the Historic District particularly if those shipwrecks have been evaluated by the Director of the MHT for NRHP eligibility.² The NMSA would complement the protection currently afforded the shipwrecks under Maryland law and the NHPA.

Second, the gap in prosecution/enforcement arises because enforcement of the reporting requirement is difficult; it requires knowledge that artifacts are being removed and is largely dependent on the integrity and willingness of the site visitor to self-report. The gap in prosecution/enforcement also arises because the violation of the Maryland Submerged Archaeological Historic Property Act is treated as a criminal misdemeanor under the existing statutory scheme. Since criminal sanctions are viewed as a harsh remedy,

² Information on the status of Maryland state property and sites is maintained on a geographic information system (GIS) and related database, which is made available to researchers at library workstations. The GIS data is also distributed on disk to consultants, government agencies, and non-profit organizations for planning and research purposes. Eventually the data will be incorporated into Medusa, the state's online cultural resource information system. For more information on the Historic Register visit https://mht.maryland.gov/research_gis.shtml or <http://mht.maryland.gov/nr/NRNHLList.aspx>.

criminal prosecution of the Maryland Submerged Archaeological Historic Property Act is an underutilized enforcement tool.

Applying non-regulatory outreach, education, and coordination efforts established under the NMSA's framework would increase protection for the resources by raising awareness about the location and historic value of the resources, avoiding unintentional damage to the resources, and enhancing collaboration among federal, state, and local agencies on activities such as emergency response planning. Additionally, the NMSA civil penalty enforcement framework could supplement or serve as a substitute for criminal enforcement under the Maryland Submerged Archaeological History Property Act. The NMSA would also augment the enforcement gap created in the NHPA, see below for more information.

2.4.2 State of Maryland laws controlling activities that may indirectly affect maritime cultural heritage resources

Chesapeake Bay Critical Area Protection Act, Md. Code Ann., Natural Resources 8-1801 et seq.

Summary

The Chesapeake Bay Critical Area Protection Act was enacted in 1984 by the Maryland General Assembly to foster sensitive development along the shoreline of the Chesapeake Bay so as to minimize damage to water quality and wildlife habitats. The act establishes and implements the Chesapeake and Atlantic Coastal Bays Critical Area Protection Program under which state and local jurisdictions address the impacts of land development within the Critical Area; minimize adverse impacts on water quality that result from pollutants that are discharged from structures or conveyances or that have run off from surrounding lands; conserve fish, wildlife, and plant habitat in the Critical Area; and establish land use policies for responsible development in the Critical Area. The term Critical Area is defined by the act "as a strip of land along the tidal shoreline extending 1,000 feet landward from the water's edge, or from the landward boundary of any adjacent tidal wetland." Minimum standards for local Critical Area programs, entitled "Criteria for Local Critical Area Program Development" are found in Title 27, Subtitle .01 of COMAR.

The Charles County Critical Area Zone Regulations implementing the Chesapeake Bay Critical Area Protection Act protect the shorelines of Malloys Bay from the adverse impacts of physical alteration and modification arising from agricultural, fishery, forestry, and development activities, including the alteration, or use of any land for residential, commercial, industrial, or institutional purposes. In addition to the local county regulations, state regulations also afford additional protection to area wildlife and the habitat upon which they depend. Malloys Bay and the surrounding shoreline upstream and downstream of the bay is located in a Critical Area. For more information on Charles County Critical Areas see: <https://www.charlescountymd.gov/pgm/planning/chesapeake-bay-critical-area-program>.

In addition to the local regulations, state regulations establish that: 1) colonial waterbird nesting sites in the Critical Area may not be disturbed during breeding season; 2) new facilities in the Critical Area shall not interfere with historic waterfowl concentration and staging areas; 3) physical alterations to streams in the Critical Area shall not affect the movement of fish; 4) the installation or introduction of concrete riprap or other artificial surfaces onto the bottom of natural streams in the Critical Area is prohibited unless water quality and fisheries habitat will be improved; and 5) the construction or placement of dams

or other structures in the Critical Area that would interfere with or prevent the movement of spawning fish or larval forms in streams is prohibited.

Potential sanctions for violations

Under the Chesapeake Bay Critical Area Protection Act and Criteria, the local jurisdiction is responsible for ensuring compliance Natural Resources 8–1808. Charles County Critical Area Program currently provides for the assessment of a civil penalty of no less than \$50 for a minor first offense and no greater than \$10,000 per day for each day of continuing violation.

In determining the amount of the penalty to be assessed, the county considers the following factors:

- a) The gravity of the violation;
- b) Any willfulness or negligence involved in the violation;
- c) The environmental impact of the violation; and
- d) The cost of restoration of the resource affected by the violation and mitigation for damage to that resource, including the cost to the county for performing, supervising, or rendering assistance to the restoration and mitigation.

Additionally, criminal sanctions, including a fine not exceeding \$10,000 or imprisonment not exceeding 90 days or both, may be available for violations of any order, permit, plan, or local program adopted, approved, or issued under the authority of the Chesapeake Bay Critical Area Protection Act.

Gap analysis related to existing authorities for target resources

The Chesapeake Bay Critical Area Protection Act does not provide direct protection to the target resources. Rather, the statute is focused on minimizing adverse impacts on water quality and habitat. However, any regulations or permits on development and land-disturbing activities issued under the Chesapeake Bay Critical Area Protection Act could indirectly benefit the target resources by minimizing the potential adverse impact from debris and other materials that could threaten their integrity. The NMSA addresses the gap in protection by providing the framework for coordinated management, which brings together these overlapping jurisdictions and legislative authorities. Post designation, the creation of the Sanctuary Advisory Council under the NMSA would ensure continued transparency and that representatives from local user groups would have an opportunity to advise and make recommendations regarding cooperative management of the sanctuary.

2.4.3 Federal laws directed to protect maritime cultural heritage assets

In addition to the NMSA, described briefly in Chapter 1 with additional information provided below, there are several additional laws that address the protection of maritime cultural heritage resources from looting, unwanted salvage, and other activities.

Abandoned Shipwreck Act (ASA) of 1987, 43 U.S.C. 2101 et seq.

Summary

The Abandoned Shipwreck Act (ASA) was enacted in 1987 to clarify ownership over abandoned shipwrecks, and ensure proper management of historic shipwrecks. Under the ASA, the U.S. government asserts title to three categories of abandoned shipwrecks: 1) those embedded in the submerged lands of a state; 2) those embedded in the coralline formations protected by a state on the submerged lands of that

state; and 3) those on submerged lands of a state that are included (or eligible for inclusion) in the NRHP. The ASA then transfers title of those shipwrecks to the respective states for management of the submerged cultural resources (43 U.S.C. 2105).

Pursuant to the ASA, states manage a broad range of living and nonliving resources in state submerged lands and waters, including abandoned shipwrecks. An underlying policy of the ASA is for states to develop appropriate and consistent policies so as to protect resources and habitats, guarantee recreational exploration of sites, and allow “appropriate” public and private recovery of shipwrecks. The ASA further encourages states to create underwater parks and areas to protect such resources. Funds are available to states for the study, protection, and preservation of shipwrecks from the Historic Preservation Fund (43 U.S.C. 2103).

The ASA also directs the Secretary of the Interior, acting through the National Park Service, to develop federal guidelines to assist states and federal agencies in managing the shipwrecks in accordance with their responsibilities under the act. The ASA guidelines are intended to aid states in maximizing the enhancement of cultural resources, fostering partnerships among interested stakeholders, and facilitating recreational access, in addition to recognizing the interests of wreck discoverers and salvors consistent with the protection of the site’s historical values and environmental integrity. However, the ASA guidelines are only advisory.

There are two exceptions to this transfer of title from the United States to the individual states: 1) the United States retains title to any abandoned shipwreck located in or on federal land; and 2) the ASA recognizes that an Indian tribe (as the term is defined in the Archaeological Resource Protection Act of 1979) retains title to any abandoned shipwreck located in or on Indian lands (i.e., lands of an Indian tribe or Indian individual held in trust by the United States or subject to a restriction against alienation imposed by the United States).

The U.S. Congress passed the ASA in response to the need to protect Underwater Cultural Heritage (UCH) and address the destruction resulting from treasure hunting and the law of salvage and finds. Congressional findings support the view that the states already had the authority to manage the UCH pursuant to the Submerged Lands Act, and that the ASA merely codified this minority view of admiralty cases. The ASA’s legislative history states that the laws of salvage and finds are inappropriate for underwater archaeological sites as they would be for ancient ruins on land.

Potential sanctions for violations

The ASA contains no federal penalty provisions. Instead, sanctions for looting or unauthorized salvage are established by the laws of the states implementing the ASA. Under Maryland law, the sanctions for looting or unauthorized salvage of historic property is a misdemeanor, and on conviction, the violator is subject to 30-day imprisonment and/or a maximum criminal fine of \$1,000 for each day of violation under the. The U.S. admiralty courts may also implement sanctions for any violations of their court orders.

Gap analysis related to existing authorities for target resources

In order for a state to acquire title under the ASA, the shipwreck must be both “abandoned” and “embedded” in the submerged lands of the state. Although the term “embedded” is statutorily defined, the ASA does not define “abandoned” (43 U.S.C. 2102(a)). Therefore, the definition is subject to the

interpretation of the courts. Courts interpreting the ASA require clear and convincing evidentiary proof of physical abandonment and intent where an owner comes forward to assert ownership in a shipwreck (*Sea Hunt, Inc. v. The Unidentified Shipwrecked Vessel*, 221 F.3d 634, 640-45 (4th Cir. 2000)). In the alternative, a court may draw an inference of abandonment, but only if no owner appears to claim the shipwrecked vessel (*Id.* at 641).

Here, no inference of abandonment is required. A court has conclusively determined that the target resources are abandoned. Specifically, in *Steinbraker v. Crouse*, 169 Md. 453, 182 A. 448 (1936), the Maryland Court of Appeals held that Western Marine & Salvage Company ("Western Marine"), former owners responsible for salvage operations in the 1920s, abandoned the vessels in the preferred alternative when the company ceased salvage operations, sold the adjacent land and salvage equipment, and departed from the area. Therefore, the target resources are afforded protection under the ASA. Despite this, the target resources could still benefit from sanctuary designation. As stated above, the ASA relies on state law for implementation and enforcement. The penalties for looting or unauthorized salvage is a misdemeanor, and on conviction, the violator is subject to 30-day imprisonment and/or a maximum criminal fine of \$1,000 for each day of violation. The NMSA would augment the penalties presently available through Maryland state laws implementing the ASA and provide an alternative to criminal enforcement under state law.

Sunken Military Craft Act

Summary

The Sunken Military Craft Act (SMCA) (Pub. L. No. 108-375, Tit. XIV; 10 U.S.C. 113 note) codifies U.S. practice, international agreements, and federal admiralty court cases. The SMCA protects sunken U.S. military ships and aircraft wherever they are located. The act also protects foreign sunken military craft located in U.S. internal waters, territorial sea, and the contiguous zone. The SMCA clarifies that sunken military craft and the associated contents of such craft – both U.S. and foreign – remain the property of their flag states unless expressly abandoned. The term “sunken military craft” is broadly defined as all or any portion of any sunken warship, naval auxiliary, or other vessel that was owned or operated by a government on military noncommercial service when it sank. The definition also includes any sunken military aircraft or military spacecraft that was owned or operated by a government when it sank.

Section 1402 of the SMCA establishes that no person shall engage in or attempt to engage in any activity directed at a sunken military craft that disturbs, removes, or injures any sunken military craft, except as authorized by permit issued by the Secretary of the Navy, Air Force, or other appropriate military unit. The act further establishes that no person shall possess, disturb, remove, or injure any sunken military craft. It prohibits the application of the law of finds to any such craft, and eliminates any award for the unwanted salvage of such craft without the express permission of the United States or, with respect to foreign sunken military craft, the consent of the foreign sovereign. As these wrecks often involve human casualties, the SMCA calls for respectful treatment of wreck sites.

Potential sanctions for violations

Violators of the SMCA are subject to a maximum civil penalty of \$100,000 for each violation, and a vessel used to commit a violation may be *liable in rem* for a penalty. Criminal sanctions for plundering of

wrecks, larceny of government property, or violation of any applicable criminal law are also available to the United States against any violator of the SMCA.

Gap analysis related to existing authorities for target resources

Although the SMCA protects some of the target resources, the SMCA does not provide protection to all of the target resources within the area being considered for proposed designation. The SMCA only applies to military craft. The NMSA will address this gap by providing protection to all vessels, regardless of character or use.

Archaeological Resources Protection Act (ARPA) of 1979, Section 6(c)

Summary

The Archaeological Resources Protection Act of 1979 (ARPA) (16 U.S.C. 470aa *et seq.*) establishes a permit system designed to address anthropological threats to archaeological resources located on public lands (owned and administered by the United States) and on the lands of federally recognized Indian tribes. The term “archaeological resource” is broadly defined as any material remains of past human life or activities which are of archaeological interest, and are at least 100 years of age. Section 6(a) of ARPA imposes a general prohibition against damaging archaeological resources. ARPA Section 6(a) provides “no person may excavate, remove, damage, or otherwise alter or deface, or attempt to excavate, remove, damage, or otherwise alter or deface any archaeological resource located on public lands or Indian lands unless” a federal permit issued authorizing such activity (see 16 U.S.C. 470ee(a)). ARPA narrowly defines the term “public lands” as any “lands owned and administered by the United States as part of the national park system, the national wildlife refuge system, or the national forest system, and all other lands the fee title to which is held by the United States” (16 U.S.C. 470bb(3)). On the other hand, “Indian lands” means “any land of Indian tribes [including any Alaskan Native village], or Indian individuals which are either held in trust by the United States or subject to a restriction against alienation imposed by the United States” (16 U.S.C. 470bb(4) and (5)).

While the ARPA permit system was primarily established to address the domestic preservation of archaeological resources in the terrestrial environment, ARPA Section 6(c) serves as a catch-all to reinforce state and local laws protecting such resources regardless of where the resources are located. ARPA Section 6(c) states, “[n]o person may sell, purchase, exchange, transport, receive, or offer to sell, purchase, or exchange, in interstate or foreign commerce, any archaeological resource excavated, removed, sold, purchased, exchanged, transported, or received in violation of any provision, rule, regulation, ordinance, or permit in effect under state or local law” (see 16 U.S.C. 470ee(c)). This provision also has been used to prosecute the attempted sale of archaeological resources stolen from private land, to enforce the illicit sale of artifacts stolen from a foreign state, and to protect maritime cultural heritage (particularly the R.M.S. *Titanic*). Section 6(c) is implicated when an illicit sale or attempted sale of archaeological resources is conducted in interstate or foreign commerce and the action violates state or local law.

Potential sanctions for violations

Potential sanctions for ARPA permit violations include civil penalties, criminal fines, and imprisonment, as well as forfeiture. However, violations of ARPA Section 6(c) is only as strong as the underlying state or local implementing law.

Gap analysis related to existing authorities for target resources

As indicated above, ARPA permit requirements applies to: 1) public lands, owned and administered by the United States; and 2) lands of federally recognized Indian tribes. The study area being considered for designation would not be covered by ARPA's general permitting provisions because the area is not public lands, and the area is not federally recognized Indian tribal lands. However, ARPA Section 6(c) catch-all provisions could be implicated if an illicit sale of archaeological resources from the study area is conducted in interstate or foreign commerce and the action violates state law. Like the ASA, ARPA is only as strong as the state or local law upon which it depends. Therefore, the NMSA would augment the penalties presently available through Maryland state laws and provide an alternative to criminal enforcement under state law.

2.4.4 Federal laws controlling activities that may indirectly affect maritime cultural heritage resources

National Historic Preservation Act (NHPA) of 1966

Summary

The National Historic Preservation Act of 1966 (Public Law 89-665; 54 U.S.C. 300101 *et seq.*) emerged in part as a response to the destruction of older buildings and neighborhoods due to development in the immediate post-World War II years. Two additional direct causes were construction of the interstate highway system, which resulted in the destruction of many historic properties, and the early 1960s Urban Renewal Program, which increased destruction of historic downtown areas. Passage of the NHPA signaled the U.S. government's commitment to preserving national heritage through ensuring the consideration of the value of heritage properties or resources of federal, state, local, and international significance.

Section 110 mandates that federal agencies assume responsibility for the preservation of historic properties or resources owned or controlled by such agency or may be affected by activities subject to the control or jurisdiction of the agency. Additionally, federal agencies must carry out their programs and projects in accordance with the purposes of the NHPA. Congress amended the act to add the provision that directs federal agencies to withhold grants, licenses, approvals, or other assistance to applicants who intentionally, significantly, and adversely affect historic properties. This provision is designed to prevent applicants from destroying historic properties prior to seeking federal assistance in an effort to avoid the Section 106 review process.

Section 106 requires federal agencies to consider the effects of their proposed federal and federally-funded undertakings under their jurisdiction on historic properties in any state, including the state's submerged lands and waters as determined by the terms of the SLA. This section also applies to federal agencies with the statutory authority to license, approve, or permit an undertaking. The Advisory Council on Historic Preservation (ACHP) has issued regulations that set forth the Section 106 process, which explains how federal agencies must take into account the effects of their actions on historic properties and how the ACHP will comment on those actions.

The NHPA established the ACHP, an independent federal agency, which is directed to advise the president and Congress on historic preservation matters, review the policies and programs of federal agencies to improve their consistency with the purposes of the NHPA, conduct training and educational

programs, and encourage public interest in preservation. Most importantly, the act places the ACHP in the central role of administering and participating in the preservation review process established by Section 106. The center of federal agency responsibilities under the NHPA can be found in sections 106 and 110 of the act.

The NHPA authorizes the Secretary of the Interior (SOI) to establish and promulgate regulations for the NRHP, which is composed of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. In addition, the SOI is also authorized to set forth National Historic Landmark designation criteria and promulgate regulations for nominating historic properties for inclusion in the World Heritage List, in accordance with the terms of the Convention concerning the Protection of the World Cultural and Natural Heritage.

Potential sanction for violation

Section 110 requires federal agencies, among other things, to withhold grants, licenses, approvals, or other assistance to applicants who intentionally, significantly, and adversely affect historic properties to prevent the destruction of historic properties in order to avoid the Section 106 process. However, the NHPA is only implicated when there is a federal undertaking;³ therefore, only underwater cultural heritage affected by a proposed federal undertaking can be protected under the NHPA.

Gap analysis related to existing authorities for target resources

While submerged historic resources within the National Register designated Malloys Bay-Widewater Historic and Archeological District are offered greater protection under the NHPA, as that law does not apply to private activities, only federal undertakings. As indicated above, the Maryland Submerged Archaeological Act augments the protection by extending coverage to all sites that are listed or eligible for listing in the Historic Register regardless of whether a federal undertaking has occurred. The NMSA would enhance the enforcement framework by: 1) supplying civil enforcement as a supplement or alternative enforcement tool to criminal enforcement under the Maryland Submerged Archaeological History Property Act; and 2) closing the enforcement gap created in the NHPA which does not presently have any money penalty provision to address violations.

FAA Modernization and Reform Act for 2012 (Pub. L. 112-095)

Summary

The Federal Aviation Administration (FAA) has the authority to establish restrictions on the national airspace. The airspace around Washington, D.C. is governed by a Special Flight Rules Area (SFRA) within a 30 mile radius of Ronald Reagan Washington National Airport that restricts all flights in the greater D.C. area. A northern portion of the study area falls within this 30 mile radius and therefore is subject to the SFRA restrictions. Operation of aircraft, including unmanned aircraft systems (UAS), also called “drones,” within the sanctuary is subject to FAA regulations.

³ Under the National Historic Preservation Act, the term “undertaking” means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including: 1) those carried out by or on behalf of the federal agency; 2) those carried out with federal financial assistance; 3) those requiring a federal permit, license, or approval; and 4) those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency. 54 U.S.C. 300320

In June 2016, the FAA published final operation rules for routine commercial use of small UAS. The rules (14 CFR Part 107) include safety regulations for UAS weighing less than 55 pounds that are conducting commercial operations. However, operators of UAS flown strictly for hobby or recreational use are subject to separate requirements in Part 101 of the FAA regulations and community-based safety guidelines.

Potential sanctions for violations

The FAA may assess civil penalties up to \$27,500. Criminal penalties include fines of up to \$250,000 and/or imprisonment for up to three years. The FAA promotes voluntary compliance by educating individual UAS operators about how they can operate safely under current regulations and laws.

Gap analysis related to existing authorities for target resources

Although a drone could potentially damage a wreck, NOAA does not intend to promulgate any overflight regulations because the existing FAA regulations, particularly those addressing UAS pilots, are comprehensive.

2.4.5 National Marine Sanctuaries Act role to supplement and complement existing authorities for target resources

The NMSA, as described in Chapter 1, authorizes the Secretary of Commerce - acting through NOAA - to designate and protect areas of the marine environment with special national or international significance due to their conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or aesthetic qualities as national marine sanctuaries. The NMSA also specifies that it is to be applied in accordance with generally recognized principles of international law, and in accordance with treaties, conventions, and other agreements to which the United States is a party.

The NMSA directs NOAA to protect and conserve nationally significant resources through comprehensive and coordinated conservation and management, the enforcement of regulatory programs, and the implementation of non-regulatory programs. The NMSA recognizes that “while the need to control the effects of particular activities has led to enactment of resource-specific legislation, these laws cannot in all cases provide a coordinated and comprehensive management approach to the conservation and management of the marine environment” (16 U.S.C. 1431(a)(3)). National marine sanctuaries are comprehensively managed for present and future generations with the policy to facilitate, to the extent compatible with resource protection, all lawful public and private use of sanctuary resources. Under the NMSA, it is unlawful for any person or entity to destroy, cause the loss of, or injure any sanctuary resource; be involved in the possession or sale of a sanctuary resource taken unlawfully; violate a sanctuary regulation or permit; and interfere with the enforcement of the NMSA.

NOAA regards community involvement and the development of a stewardship ethic as vitally important to successfully protecting sanctuary resources. One key way to achieve this involvement is the formation of sanctuary advisory councils authorized under the NMSA. Sanctuary advisory councils bring together broad expertise and diverse community representation to provide advice to the sanctuary superintendent on the management and protection of the sanctuary.

Congress enacted the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) in the wake of the environmental movement of the 1960s and 1970s. As reflected in the legislative history, the MPRSA

arose out of public concern for ocean dumping, exploitation of the seabed for oil, gas, and minerals, and a desire to set aside special areas for protection, research, education, recreation, fishing, and other uses determined compatible with the primary conservation objective. The MPRSA detailed a plan for use of the marine environment by regulating the dumping of only certain waste in specified areas (Title I, or the Ocean Dumping Act), scientific research of the ocean in general but of ocean dumping sites in particular (Title II), and setting aside the more special or significant areas of the marine environment for conservation as national marine sanctuaries (Title III, or the National Marine Sanctuaries Act).

Although the NMSA was primarily enacted to conserve our natural heritage, the first national marine sanctuary to be designated under the Act in 1975 sought to conserve an underwater cultural resource, the Civil War ironclad U.S.S. *Monitor*. At the time of the Monitor National Marine Sanctuary designation, Title III of the MPRSA did not expressly refer to historical, archaeological, or cultural resources within its stated scope. As originally enacted, Title III provided the Secretary of Commerce with the authority to designate sanctuaries as necessary for the purpose of preserving or restoring such areas for their conservation, recreational, ecological, or aesthetic values. In 1992, on the twentieth anniversary of Title III, the most substantial changes to the NMSA occurred to date, amending it to expressly include the protection and management of historic and cultural resources.

With regards to enforcement, NOAA has a duty to conduct such enforcement activities as are necessary and reasonable to carry out the NMSA. The NMSA enforcement provisions collectively provide perhaps the broadest and most comprehensive enforcement authority of any heritage resource management statute. Offenders are strictly liable for violations; accordingly, no proof of negligence is required. NOAA must only demonstrate that an offender caused the destruction of, or injury to, sanctuary resources.

While the major heritage resource statutes provide for criminal enforcement mechanisms, the NMSA uses civil remedies and authorizes civil penalties for violations in marine sanctuaries. Since federal and state criminal laws may also apply to these activities, the civil penalty enforcement tool provides resource managers and agency counsel with supplemental enforcement authority. In one enforcement case, *Craft v. National Park Service*, criminal penalties were pursued by the state of California against the offenders at the same time that federal authorities pursued civil penalties under the NMSA. This dual-track enforcement authority is nearly non-existent in other state and federal resource management regimes. The criminal provisions of Section 6(c) of the ARPA are also available for protecting archaeological resources including those taken from private land, public lands, and sanctuaries.

Sanctuary designation and management, as governed by the NMSA, serves as a framework for providing long-term protection, while allowing multiple uses of the sanctuaries to the extent that they are compatible with resource protection. The NMSA will supplement and complement the pre-existing authorities in the state of Maryland and help protect the target resources by filling in the gaps in the existing federal and state authorities. ONMS will also assist the state of Maryland and local government with the implementation and enforcement of their regulations through regulatory and non-regulatory programs that address behavioral change through public outreach and education, enforcement, and interpretive enforcement. This is described in greater detail in Chapter 3.



Chapter 3

ALTERNATIVES

3.1 DEVELOPMENT OF ALTERNATIVES

NOAA has developed a reasonable range of alternatives to meet the purpose and need for this proposed action and analyzed the impacts for the alternatives as required by NEPA. The starting point for development of the boundary alternatives was the community sanctuary nomination described in Chapter 1. Additional information available in the final Mallows Bay-Widewater Historic and Archeological District listing on the NRHP was used to refine the alternatives. Public input during the scoping period and DEIS public comment period, additional research conducted related to the historical and archaeological resources of the area, and input from Maryland DNR, MHT, Charles County, and the DoN further refined the proposed alternatives. The four alternatives are “no action” (Alternative A) or the current status, and three progressively larger geographic action alternatives (alternatives B, C, and D). For the action alternatives, the same regulations and non-regulatory management actions would be applied to the geographic areas included in the alternative boundaries. Two alternatives were considered but not carried forward, as are described below, because they were outside the scope of the purpose and need of the proposed federal action.

While the community sanctuary nomination focus is the geographic area around Mallows Bay, public comments during the scoping period recommended researching additional maritime cultural heritage resources in the areas beyond the nomination. NOAA worked with the MHT and maritime author Donald Shomette to identify other significant assets that are known or suspected, based on historical literature, to exist in the area. NOAA, alongside state and county partners, recognize that the Mallows Bay maritime cultural heritage resources are part of a larger historical narrative with national and international significance. Alternatives B, C, and D reflect both the larger historical story and recognize the human use benefits that are part of the purpose of sanctuary designation for this area.

NOAA determined that all of the areas evaluated in the alternatives described below possess special historical qualities that give each area special national significance. As a result, the action alternatives will focus on the protection, access, and interpretation of target resources associated with the maritime cultural features of the area, including the WWI “Ghost Fleet,” other vessels of historic significance, and related maritime infrastructure. These actions will be primarily non-regulatory in nature, but will include limited regulation and permitting of specific activities that supplement and complement authorities that already exist to mitigate known threats to these historic resources. NOAA will consider and execute any regulations and/or permits in cooperation with the state of Maryland, Charles County, and other federal authorities as appropriate. See below for proposed regulations and permit information.

The action alternatives will not include any direct management, regulation, or authority by NOAA of the natural environment, including fish and wildlife, water quality, or habitat. Authorities related to natural resources and their management will remain with Maryland DNR and other local jurisdictions. However,

NOAA will execute education, science and interpretative programs that describe for visitors and user communities the relationship between the shipwreck structures and their interplay with the natural system.

3.2 DESCRIPTION OF ALTERNATIVES

Four boundary alternatives were analyzed in terms of achieving optimum conservation of the historic shipwrecks, improving scientific knowledge of the area, and promoting public understanding of the value of the Malloys Bay-Potomac River area maritime cultural heritage resources.

The four alternatives considered are: (A) no action or continuing the status quo; (B) approximately 18 square miles as submitted in the nomination package; (C) approximately 52 square miles, which would span the Potomac River from Ben Doane Road, Maryland, to Possum Nose, Virginia and the southern boundary extends from the end of Owens Drive east of Chotank Creek, Virginia to Benny Gray Point, Maryland, incorporating all historic WWI and Civil War-era shipwrecks near Widewater and Caledon state parks; and (D) approximately 100 square miles extending across the mouth of Pomonkey Creek from just south of Anne Mason Court in Indian Head, Maryland to Pomonkey Point, Maryland and then from Pomonkey Point, Maryland to Hallowing Point, Virginia, extending southward to Pope's Creek, Maryland to Persimmon Point, on Mathias Neck, Virginia. See Figure 2 for a map of the alternatives and Table 1 for a comparison of the maritime cultural heritage resources by alternative. More information on the maritime cultural heritage resources is found in Chapter 4.

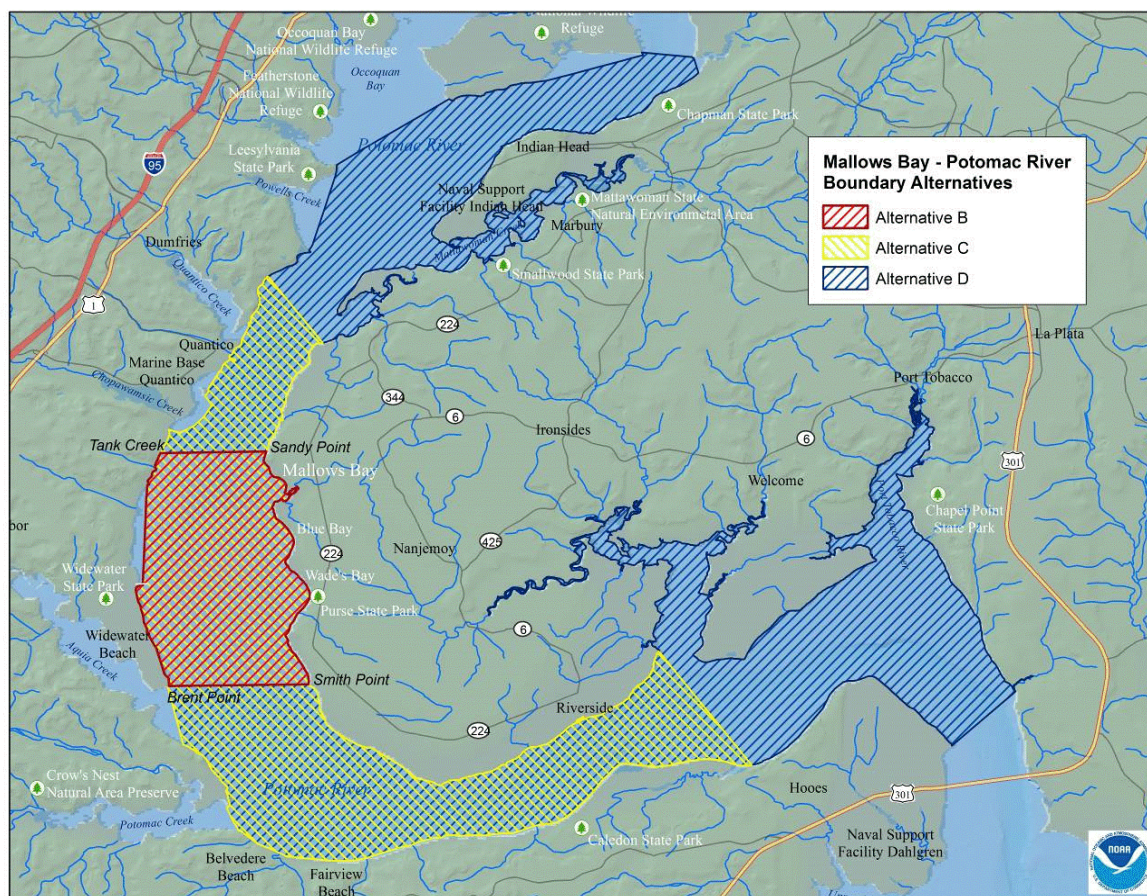


Figure 2: Boundaries for Alternatives B, C, and D

Table 1: Summary of resources in each alternative including World War I (WWI) and U.S. Emergency Fleet Corporation (USEFC) vessels.

Alternative	WWI / USEFC Vessels	WWI / USEFC Related Vessels	Non-WWI / USEFC- Related Vessels	Partial Vessels	Vessels Potentially in Area	Non-Vessel Resources
A	0	0	0	0	0	0
B	104	14	16	8	3	6--Wharves, slipways, berm and concrete basin, berm and log wall, landings, fish camps
C	2	0	7	0	13	Pre-contact and historic water trails and routes of trade, exploration, commerce, and military action, early balloon reconnaissance from barges, landings, and crossings
D	0	0	0	0	18	Escape route used by John Wilkes Booth in 1865, and larger segments of trails, routes, and military activities
TOTALS	106	14	23	8	34	

3.2.1 Alternative A. No action or status quo alternative

Under the No Action Alternative, NOAA would maintain the status quo and would not designate a national marine sanctuary in and around Mallows Bay. With the exception of the work of Donald Shomette in his book, *The Ghost Fleet of Mallows Bay: And Other Tales of the Lost Chesapeake* (Tidewater Publishers 1996), and official reports housed at the MHT, very little research has been conducted into the historical shipwrecks found in Mallows Bay and the surrounding area of the Potomac River. The historical, archaeological, and recreational significance of the individual and collective maritime resources in this area is not well known or promoted. Moreover, it is believed that in these waters there are many historic vessels yet to be discovered and documented. Currently, no organization regularly studies, monitors, or assesses the health, stability, and changing conditions in this maritime ecosystem.

Additionally, the management and protection of the maritime cultural heritage resources in and around Mallows Bay would remain with existing state and federal authorities as detailed above in Section 2.4 (Existing legal authorities) of this FEIS. The principal statute that directly protects maritime cultural heritage resources within the state of Maryland is the Maryland Submerged Archaeological Historic Property Act (Md. Code Ann., State Fin. & Proc. 5A-333 *et seq.*). As explained in Section 2.4 above, the Maryland Submerged Archaeological Historic Property Act protects properties that are listed in the Historic Register, including the Mallows Bay-Widewater Historic and Archeological District (Historic District). Properties located outside the Historic District may also be protected under the Maryland Submerged Archaeological Historic Property Act, but only if the site has been determined eligible by the Director of the MHT applying the criteria listed in COMAR 34.04.05.07 and using procedures set

out COMAR 34.04.05.06. Enforcement of the Maryland Submerged Archaeological Property Act would continue to be largely dependent on self-reporting, and violations would continue to be treated as a criminal misdemeanor.

The following federal statutes would also continue to provide an additional layer of protection; but, as indicated in Section 2.4, each statute has noticeable gaps in authority. The four principal federal statutes include: 1) the National Historic Preservation Act (NHPA) of 1966 (54 U.S.C. 300101 *et seq.*); 2) the Abandoned Shipwreck Act (ASA) of 1987 (43 U.S.C. 2101 *et seq.*); 3) the Archaeological Resources Protection Act (ARPA) of 1979 (16 U.S.C. 470aa *et seq.*); and 4) the Sunken Military Craft Act (SMCA) (Pub. L. No. 108-375, Tit. XIV; 10 U.S.C. 113 note).

The NHPA affords some protection to the maritime cultural heritage resources located within the Mallows Bay-Widewater Historic and Archeological District. The Mallows Bay-Widewater Historic and Archeological District (Historic District), was added to the National Register of Historic Places (NRHP) in April 2015, and encompasses approximately 17 square miles of Maryland state waters along the tidal Potomac River (National Register Listing Number 15000173, April 24, 2015). This Historic District extends from the Charles County shoreline at Sandy Point, Nanjemoy across the Potomac River to the mean low water mark on the Virginia shore. The Historic District is deemed nationally significant under the NHPA based on: 1) its association with the World War I U.S. Emergency Fleet Corporation and the related shipbreaking activities; 2) the large assemblage of wooden and composite steamships in the world and a substantial component of the entire U.S. merchant marine fleet built between 1917-1922; and 3) the archaeological sites provide information on vessel design, use, and adaptation along with shipbreaking and salvage operations, site formation processes (taphonomy) and landscape alteration. The Historic District offers NHPA protection to 142 vessels. However, as explained in Chapter 2, Section 106 of the NHPA applies only to a proposed federal “undertaking” on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). Section 106 does not prevent the undertaking from occurring and may not ultimately prevent an adverse effect. Section 106 also does not apply to private activities unless a federal permit is required and any vessel lying outside the Historic District would only be afforded protection under the NHPA if the site was determined eligible for listing.

The ASA is another federal statute that protects maritime cultural heritage resources from treasure hunters by transferring title to abandoned shipwrecks from the U.S. government to the state in which the shipwreck lies for management purposes. However, the application of the ASA is fairly narrow. The ASA does not apply to shipwrecks located in or on federal land, and the ASA does not apply to shipwrecks that lie on the land of a federally recognized Indian tribe. Instead, the ASA applies only to “an abandoned shipwreck that is - (1) embedded in the submerged lands of a state; (2) embedded in coralline formations protected by a state on submerged lands of [that] state; and (3) [located] on submerged lands of a state and included in or determined eligible for inclusion in the National Register [of Historic Places].” (43 U.S.C. 2105). Although the target resources would be afforded protection under the ASA, implementation and enforcement of the ASA would continue to rely on Maryland state law. For more information, see Section 2.4 of the FEIS.

Similar to the ASA, the ARPA is another federal statute that is triggered and wholly dependent on state or local law. ARPA establishes a permit system designed to address anthropological threats to

archaeological resources located on public lands and on the lands of federally recognized Indian tribes. Although ARPA would not apply to the areas considered for designation since those areas are not public land and are not federally recognized Indian tribal lands, the catch-all provision in ARPA Section 6(c) would continue to reinforce state and local laws protecting such resources regardless of where the resources are located (see Section 2.4 of the FEIS for more information). ARPA Section 6(c) provides that “[n]o person may sell, purchase, exchange, transport, receive, or offer to sell, purchase, or exchange, in interstate or foreign commerce, any archaeological resource excavated, removed, sold, purchased, exchanged, transported, or received in violation of any provision, rule, regulation, ordinance, or permit in effect under state or local law” (see 16 U.S.C. 470ee(c)). This provision has been used to prosecute the attempted sale of archaeological resources stolen from private land, to enforce the illicit sale of artifacts stolen from a foreign state, and to protect maritime heritage (particularly the R.M.S. *Titanic*). Section 6(c) is implicated when an illicit sale or attempted sale of archaeological resources is conducted in interstate or foreign commerce and the action violates state or local law.

The SMCA also has fairly narrow application to the maritime cultural heritage resources of the Mallows Bay area. The SMCA protects sunken U.S. military ships and aircraft wherever they are located. The act also protects foreign sunken military craft located in U.S. internal waters, territorial sea, and the contiguous zone. The SMCA clarifies that sunken military craft and the associated contents of such craft – both U.S. and foreign – remain the property of their flag states unless expressly abandoned. Section 1402 of the SMCA establishes that no person shall engage in or attempt to engage in any activity directed at a sunken military craft that disturbs, removes, or injures any sunken military craft, except as authorized by permit issued by the Secretary of the Navy, Air Force, or other appropriate military unit. The term “sunken military craft” is broadly defined as all or any portion of any sunken warship, naval auxiliary, or other vessel that was owned or operated by a government on military noncommercial service when it sank. Even though the SMCA potentially provides some of the target vessels with some protection, the SMCA does not provide protection to all vessels within the area being considered for proposed designation because they do not fall within the statutory definition of “sunken military craft.”

3.2.2 Alternative B. Approximately 18 square miles (Preferred alternative)

NOAA has identified Alternative B as the preferred alternative based on the public comments received during public review of the proposed sanctuary regulations and the DEIS/DMP, government, and tribal consultations, discussions with constituents and resource management experts, and deliberations with the state of Maryland and Charles County, Maryland as joint management partners. This alternative was chosen because it would best meet the purposes and needs of the sanctuary, while taking into account considerations and insights gained through these comments, discussions, and interactions. As such, this alternative would provide coordinated and comprehensive management and conservation of maritime resources identified by the Mallows Bay-Widewater Historic and Archeological District listed on the NRHP through the joint management of the area by NOAA, the state of Maryland, and Charles County, Maryland. Further, this alternative would provide meaningful opportunities to promote recreation and tourism in the area, as well as enable extensive programs and partnerships for interpretation, education, and science that are identified in the sanctuary management plan.

This alternative is identical to the area currently listed in the NRHP, encompassing approximately 18 square miles (see Figure 3). The boundary would begin at the mean high tide level on the Maryland side, would extend to the Virginia-Maryland state boundary line, and would follow the boundary of the National Register Mallows Bay-Widewater Historic and Archeological District. When the community-based nomination package for MPNMS was submitted to NOAA, the proposed boundaries for the national marine sanctuary were intended to match those submitted for the National Register designation of the Mallows Bay - Widewater Historic and Archeological District. Those boundaries were updated after the nomination was submitted and defined as follows: *“Mallows Bay-Potomac River National Marine Sanctuary consists of an area of approximately 13.6 square nautical miles (nmi²) (18 sq. mi) of waters of the state of Maryland and the submerged lands thereunder, over, around, and under the underwater cultural resources in the Potomac River. The precise boundary coordinates are listed in appendix A to this subpart. The western boundary of the sanctuary approximates the border between the commonwealth of Virginia and the state of Maryland along the western side of the Potomac River and begins at Point 1 north of the mouth of Aquia Creek in Stafford County Virginia near Brent Point. From this point the boundary continues to the north approximating the border between Virginia and Maryland cutting across the mouths of streams and creeks passing through the points in numerical order until it reaches Point 40 north of Tank Creek. From this point the sanctuary boundary continues east across the Potomac River in a straight line towards Point 41 until it intersects the Maryland shoreline just north of Sandy Point in Charles County, Maryland. From this intersection the sanctuary boundary then follows the Maryland shoreline south around Mallows Bay, Blue Banks, and Wades Bay cutting across the mouths of creeks and streams along the eastern shoreline of the Potomac River until it intersects the line formed between Point 42 and Point 43 just south of Smith Point. Finally, from this intersection the sanctuary boundary crosses the Potomac River to the west in a straight line until it reaches Point 43 north of the mouth of Aquia Creek in Stafford County Virginia near Brent Point.”*

Alternative B would contain a total of 142 known vessels, which includes 118 WWI/USEFC vessels and related vessels, 16 other vessels, eight areas of documented historic debris, six documented non-vessel resources, three potential vessels, and known, but as yet undocumented, historic sites, such as ferry landings. Among the 16 other vessels, one is thought to date to the Civil War era and one to the last quarter of the 19th century. Tables 2 - 6 below list the maritime cultural heritage resources by type located in Alternative B.

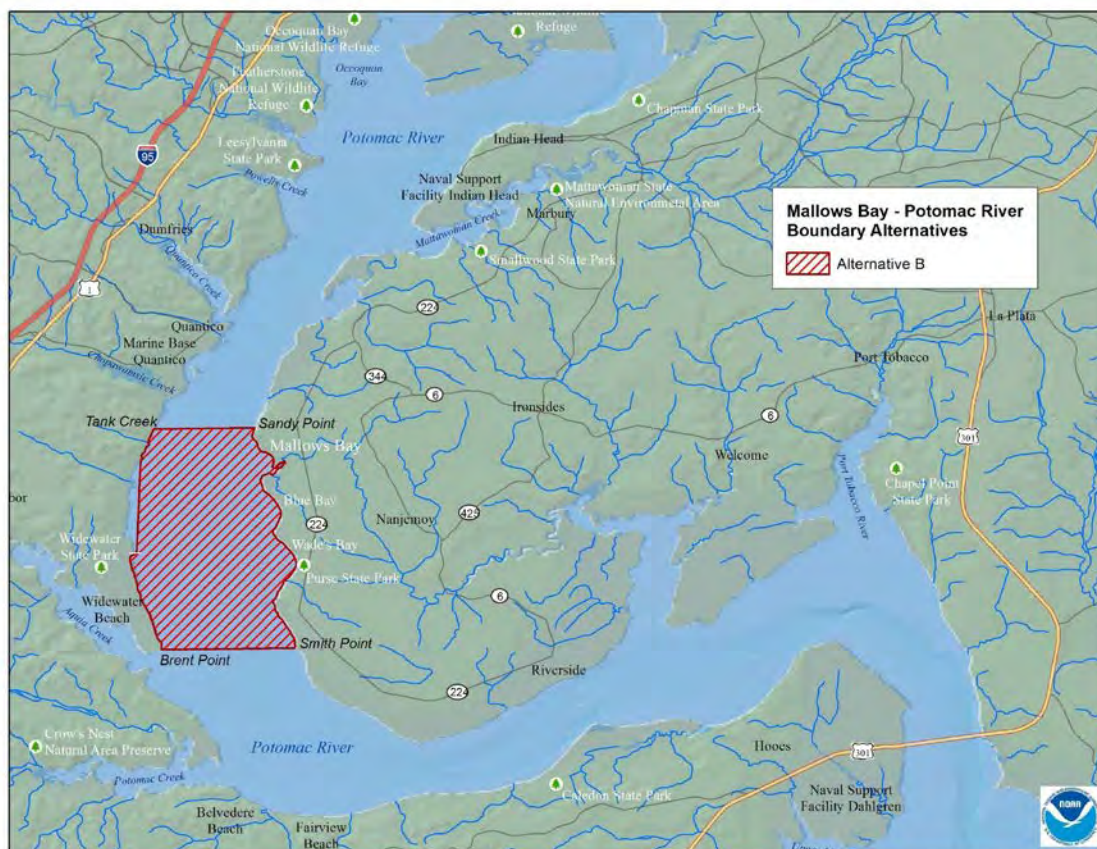


Figure 3: Boundary for Alternative B

Table 2: U.S. Emergency Fleet Corporation vessels in Alternative B

Vessel Name	Site Number	Vessel Type	Date Released from Bond (burned/sunk)
<i>Adway</i>	18CH493	Merchant vessel (steamship), Ferris type	1928
<i>Afrania</i>	18CH494	Merchant vessel (steamship), Ferris type	1926
<i>Aiken</i>	18CH495	Merchant vessel (steamship), Ferris type	1928
<i>Alabat</i>	18CH496	Merchant vessel (steamship), Ferris type	1928
<i>Alanthus</i>	18CH497	Merchant vessel (steamship), Ferris type	1930
<i>Alapaha</i>	18CH498	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Alcis</i>	18CH499	Merchant vessel (steamship), Ferris type	1929
<i>Allison</i>	18CH500	Merchant vessel (steamship), Ferris type	1929
<i>Alpaco</i>	18CH501	Merchant vessel (steamship), Ferris type	1928
<i>Alta</i>	18CH502	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Andra</i>	18VH503	Merchant vessel (steamship), Ferris type	1929
<i>Angelina</i>	18CH504	Merchant vessel (steamship), Ferris type	1928
<i>Anoka</i>	18CH505	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Aowa</i>	18CH506	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929

<i>Arado</i>	18CH507	Merchant vessel (steamship), Ferris type	1928
<i>Baladan</i>	18CH508	Merchant vessel (steamship), Ferris type	1929
<i>Banicia</i>	18CH509	Merchant vessel (steamship), Ferris type	1929
<i>Battahatchee</i>	18CH510	Merchant vessel (steamship), Ferris type	1929
<i>Bayou Teche</i>	18CH511	Merchant vessel (steamship), Ferris type	1928
<i>Bedminster</i>	18CH512	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Belgrade</i>	18CH513	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Bellbrook</i>	18CH514	Merchant vessel (steamship), Ferris type	1928
<i>Benzonia</i>	18CH515	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Bobring</i>	18CH516	Merchant vessel (steamship), Ferris type	1928
<i>Bockonoff</i>	18CH517	Merchant vessel (steamship), Ferris type	1929
<i>Boone</i>	18CH519	Merchant vessel (steamship), Ferris type	1928
<i>Bottineau</i>	18CH520	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Boxley</i>	18CH521	Merchant vessel (steamship), Ferris type	1928
<i>Boykin</i>	18CH522	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Braeburn</i>	18CH523	Merchant vessel (steamship), Ferris type	1928
<i>Bromela</i>	18CH524	Merchant vessel (steamship), Grays Harbor type	1928, Note: Only known Grays Harbor type
<i>Buckhorn</i>	18CH525	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Buhisan</i>	18CH526	Merchant vessel (steamship), Ferris type	1929
<i>Cabeza</i>	18CH529	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Calala</i>	18CH430	Merchant vessel (steamship), Ferris type	1926
<i>Caribou</i>	18CH531	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Casmalia</i>	18CH532	Merchant vessel (steamship), Ferris type	1929
<i>Coconino</i>	18CH533	Merchant vessel (steamship), Ferris type	1928
<i>Congaree</i>	18CH534	Merchant vessel (steamship), Ferris type	1929
<i>Cumberland</i>	18CH535	Merchant vessel (steamship), Ferris type	1928
<i>Datis</i>	18CH536	Merchant vessel (steamship), Ferris type	1928
<i>Dertona</i>	18CH537	Merchant vessel (steamship), Ferris type	1926
<i>Dungeness</i>	18CH538	Merchant vessel (steamship), Ferris type	1928
<i>Fernandina</i>	18CH539	Merchant vessel (steamship), Ferris type	1928
<i>Flavel</i>	18CH540	Merchant vessel (steamship), Ferris type	1928
<i>Folsom</i>	18CH541	Merchant vessel (steamship), Ferris type	1928
<i>Fort Stevens</i>	18CH542	Merchant vessel (steamship), Ferris type	1928
<i>Guilford</i>	18CH543	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Hoosac</i>	18CH544	Merchant vessel (steamship), Ferris type	1929
<i>Kangi</i>	18CH546	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Kasota</i>	18CH547	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929

<i>Kickapoo</i>	18CH548	Merchant vessel (steamship), Ferris type	1929
<i>Marshfield</i>	18CH549	Merchant vessel (steamship), Ferris type	1929
<i>Mono</i>	18CH550	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Moosabee</i>	18CH551	Merchant vessel (steamship), Ferris type	1928
<i>Musketo</i>	18CH552	Merchant vessel (steamship), Ferris type	1928
<i>Nameki</i>	18CH553	Merchant vessel (steamship), Ferris type	unknown
<i>Nemassa</i>	18CH554	Merchant vessel (steamship), Ferris type	1929
<i>North Bend</i>	18CH555	Merchant vessel (steamship), Ferris type	1928
<i>Nupolena</i>	18CH556	Merchant vessel (steamship), Ferris type	unknown
<i>Owatama</i>	18CH557	Merchant vessel (steamship), Ferris type	1928
<i>Panga</i>	18CH558	Merchant vessel (steamship), Ferris type	1928
<i>Quapaw</i>	18CH559	Merchant vessel (steamship), Ferris type	1928
<i>Quemakoning</i>	18CH560	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Swamscott</i>	18CH561	Merchant vessel (steamship), Ferris type	unknown
<i>Tanka</i>	18CH562	Merchant vessel (steamship), Ferris type	unknown, but hull in position since 1929
<i>Wakan</i>	18CH563	Merchant vessel (steamship), Ferris type	1929
<i>Wayhut</i>	18CH564	Merchant vessel (steamship), Ferris type	1929
<i>Wihaha</i>	18CH565	Merchant vessel (steamship), Ferris type	1929
<i>Woyaca</i>	18CH566	Merchant vessel (steamship), Ferris type	1929
<i>Yawah</i>	18CH567	Merchant vessel (steamship), Ferris type	1929
Unidentified steamship	18CH487	Steamship	unknown
Unidentified steamship	18CH518	Steamship	unknown
Unidentified steamship	18CH527	Steamship	unknown
Unidentified steamship	18CH528	Steamship	unknown
Unidentified steamship	18CH568	Steamship	unknown
Unidentified steamship	18CH569	Steamship	unknown
Unidentified steamship	18CH570	Steamship	unknown
Unidentified steamship	18CH571	Steamship	unknown
Unidentified steamship	18CH572	Steamship	unknown
Unidentified steamship	18CH573	Steamship	unknown
Unidentified steamship	18CH574	Steamship	unknown
Unidentified steamship	18CH575	Steamship	unknown
Unidentified steamship	18CH576	Steamship	unknown
Unidentified steamship	18CH577	Steamship	unknown

Unidentified steamship	18CH578	Steamship	unknown
Unidentified steamship	18CH579	Steamship	unknown
Unidentified steamship	18CH823	Steamship	unknown
Unidentified steamship	18CH840	Steamship	unknown
11 Unidentified steamships off Widewater and below; no site numbers yet; it is important to note that there is one additional vessel here that is not included because it is in Virginia waters.			

Table 3: Vessels related to U.S. Emergency Fleet Corporation shipbreaking in Alternative B

Vessel Name	Site Number	Vessel Type
<i>Ida S. Dow</i>	18CH545	unknown
Unidentified barge	18CH580	barge
Unidentified barge	18CH488	barge
Unidentified barge	18CH581	barge
Unidentified barge	18CH582	barge
Unidentified barge	18CH583	barge
Unidentified barge	18CH584	barge
Unidentified barge	18CH585	barge
Unidentified barge	18CH586	barge
Unidentified barge	18CH587	barge
Unidentified barge	18CH588	barge
Unidentified barge	18CH589	barge
Unidentified barge	18CH594	barge

Table 4: Other vessels in Alternative B

Vessel Name	Site Number	Vessel Type
<i>Accomac</i>	18CH492	ferry, built in 1973
Unidentified boat	18CH597	unknown
Unidentified boat	18CH601	unknown
Houseboat/Potomac River Ark	18CH604	houseboat
Unidentified	18CH605	centerboard schooner
Unidentified	18CH606	workboat
Unidentified	18CH607	small boat
<i>Mermentau</i>	18CH608	commercial fishing vessel, built in 1985
Unidentified	18CH609	centerboard log canoe
Unidentified	18CH612	composite steamship
Unidentified	18CH614	centerboard schooner
Longboat [?]	18CH615	longboat
Unidentified	18CH616	centerboard sharpie
Unidentified boat	18CH844	(search and rescue)
Unidentified shipwreck	18CH802	unknown

Probable 20th-C shipwreck	18CH825	unknown
---------------------------	---------	---------

Table 5: Partial and fragmentary vessel remains in Alternative B

Vessel Name	Site Number
Ship debris	18CH590
Ship hull fragment	18CH595
Ship hull fragment	18CH596
Ship debris	18CH600
Ship hull fragment	18CH602
Ship debris	18CH617
Ship debris	18CH620
Ship debris	18CH842

Table 6: Non-vessel resources in Alternative B

Vessel Name	Site Number
Wharf	18CH491
Marine slipway	18CH591
Berm and log wall	18CH598
Canal berm	18CH599
Berm and concrete basin gateway	18CH603
Steamboat wharf	18CH843

In addition to the resources listed in Table 6, there are important maritime heritage features dispersed throughout the waters and adjacent landscape of the Potomac River, including the water area associated with Alternative B (Table 7). These include: (1) the traditional homeland and cultural landscape of the Piscataway Indian Nation, Piscataway Conoy Confederacy and Sub-Tribes of Maryland, and the Patowomeck Indian Tribe; (2) several Revolutionary War, Civil War and War of 1812 battlescapes; (3) the remains from historic fishing industry, including fish camps and related activity areas for net-tarring and caviar canning, as well as two presidential fishing retreats; (4) African-American history, including records of slave and black freemen communities, possible Underground Railway resources, and records of their role in the shipbreaking and agricultural industries; and (5) segments of steamboat routes and ferry crossings and the historic transit by Captain John Smith. The land-based component of these would not be part of the sanctuary nor subject to regulation as part of the sanctuary. However, as they are relevant to the historic resources of the sanctuary, non-regulatory programs for education and interpretation would help connect and retain their historical significance.

Table 7: Cultural resources inside and outside of Historic District

Type of Resource	Inside Historic District	Outside Historic District
USEFC Vessels	104	2
USEFC-related vessels	14	0
Non-USEFC vessels	16	7

Partial and fragmentary vessel remains	8	0
Potential vessels	3	31
Non-vessel resources	6 (Wharves, slipways, berm and concrete basin, berm and log wall, landings, fish camps).	Precontact and historic water trails and routes of trade, exploration, commerce, and military action, early balloon reconnaissance from barges, landings, and crossings. The escape route used by John Wilkes Booth in 1865, and larger segments of trails, routes, and military activities
Maritime cultural landscape aspects	This area is known as an important maritime cultural landscape, which includes several Revolutionary War and Civil War battlescapes, two presidential fishing retreats, and remains from historic fishing industry. These resources are dispersed throughout the region both within and outside the Historic District.	
Tribal resources	This area includes traditional homeland and cultural landscape of the Piscataway Indian Nation, Piscataway Conoy Confederacy and Sub-Tribes of Maryland, and the Patowomeck Indian Tribe. These resources are dispersed throughout the region both within and outside the Historic District.	
African-American history	This area includes important African-American history, including records of slave and black freemen communities, possible Underground Railway resources, and records of their role in the shipbreaking and agricultural industries. These resources are dispersed throughout the region both within and outside the Historic District.	

3.2.3 Alternative C. Approximately 52 square miles

This alternative would include all the known shipwrecks in the area under consideration for national marine sanctuary status encompassing approximately 52 square miles (see Figure 4). The boundary would begin at the Charles County shoreline near the terminus of Ben Doane Road where the Maryland state waters and submerged lands begin at the mean high tide line. The eastern boundary would follow the mean high tide line south to Benny Gray Point at the mouth of Nanjemoy Creek. From that point, the boundary would extend south across the Potomac River to the low water line at the Maryland-Virginia border to Owens Road just east of Chotank Creek Virginia. The western boundary would extend north following the Maryland-Virginia border to near Possum Nose Virginia, excluding the Quantico restricted area (shown in Figure 5). From there the boundary would extend back east across the Potomac River to the northeastern most point of the boundary near Ben Doane Road. The Maryland side of the boundary would include the waters of Goose Bay, Wades Bay, Blue Banks, Malloes Bay, the Malloes Bay “Burning Basin” as far east as the egress for Marlow Creek into the basin itself, Liverpool Cove, and Harrison Cove. The boundary would be comprised of only property (submerged lands and waters) that is owned by the state of Maryland.

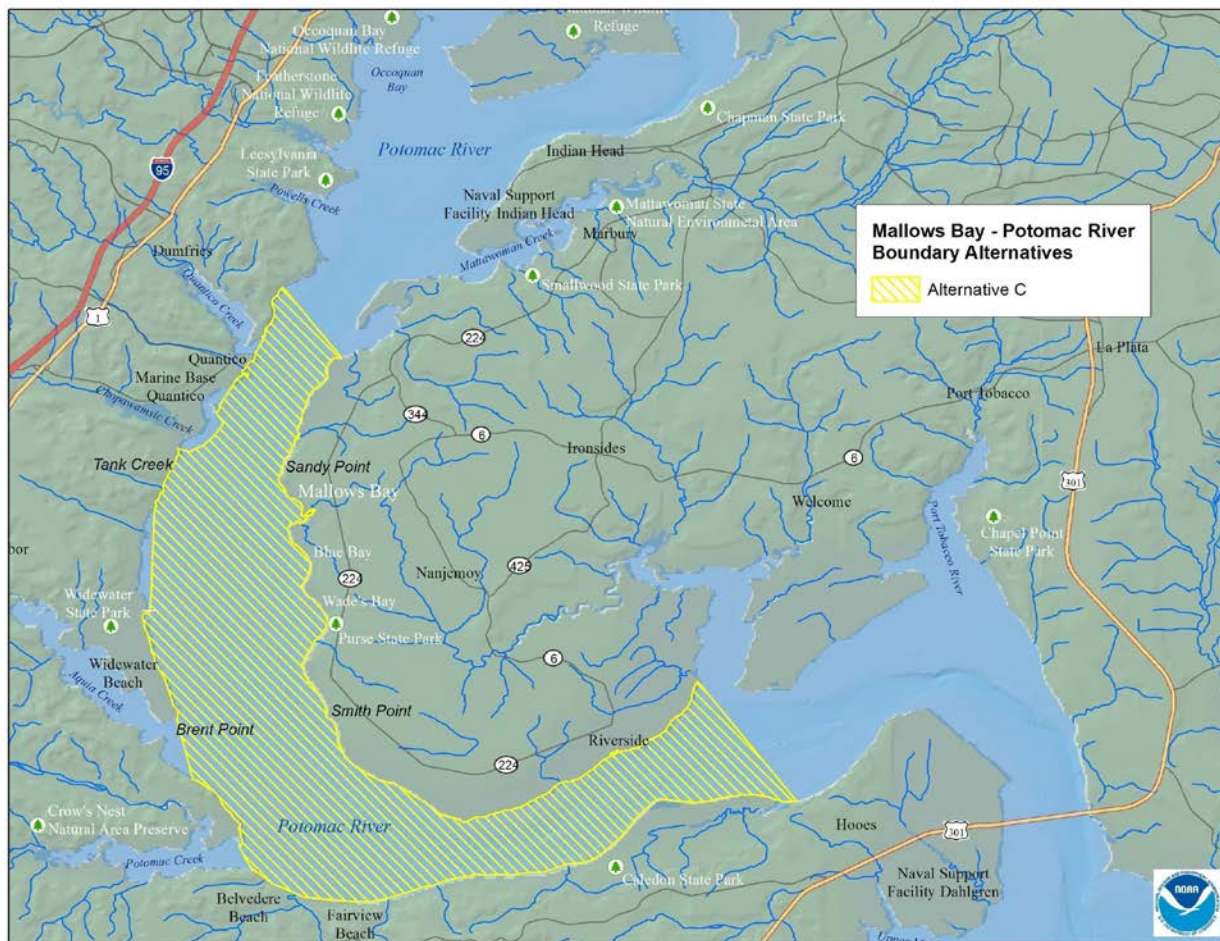


Figure 4: Boundary for Alternative C

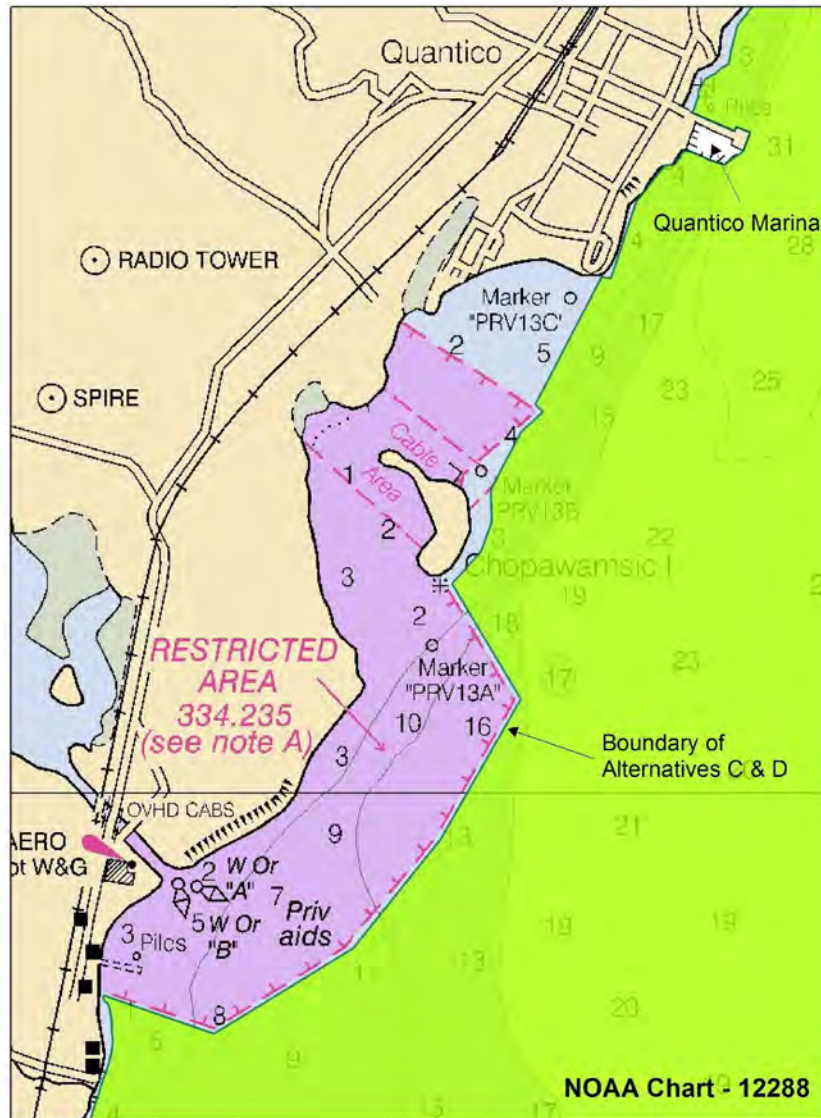


Figure 5: Boundary for alternatives C and D, detail of proposed boundary area around Marine Corps Base Quantico

In addition to the resources included in Alternative B, this alternative would add the known resources listed in Table 8 below. Two of these vessels may date to the late 18th century, two to the first quarter of the 20th century, and the remainder to the 19th century. Additionally, there are 13 vessels known only from documentary sources that may be located in the area. This alternative would encompass all of the USEFC vessels in Maryland waters, as well as the site of the *Wawaset*, burned in 1873 with between 76 and 100 lives lost.

Table 8: Additional resources in Alternative C

Vessel Name	Site Number
USEFC vessel located off Fairview, Virginia	18CH912
USEFC vessel located off Caledon, Virginia	18CH913
Steamer <i>Wawaset</i>	18CH804

Unidentified shipwreck	18CH800
Unidentified shipwreck	18CH803
Barge or Canal boat, possibly Civil War	18CH810
Unidentified shipwreck	18CH822
Unidentified shipwreck	18CH824
Unidentified shipwreck	18CH826

Among the shipwrecks listed in Table 8 (additional resources in Alternative C), there are two WWI-era wooden vessels (sites 18CH912 and 18CH913) adjacent and abutting the Virginia shore of the Potomac River. The proposed sanctuary boundary in Alternative C would bisect both vessels, but the whole shipwreck would be managed and protected under the NMSA and NHPA. Both wrecks are eligible for listing on the National Register, and the state of Maryland is in the process of amending the district nomination to include both vessels. Site 18CH912 abuts private property located in Fairview, King County, Virginia (see Figure 6). Pursuant to a permit issued by King County, Virginia and the approval of the MHT, the private owner has preserved Site 18CH912 in situ using a standard practice known as “site banking.” Site banking involves filling the shipwreck with material and leveling sand against part of the vessel on the shoreward side. Concrete slabs were then placed on the river side to internally and externally support and stabilize the vessel. A dock was also built over the vessel to provide the property owner with a means of crossing the vessel without damage. Site 18CH913 is slightly upriver of Caledon State Park and, at present, a small portion of the stern is on the Virginia shoreline, leaving the vast majority of the vessel in the Potomac River in Maryland waters (see Figure 7). This is a relatively recent occurrence following a storm event.

The MHT claims title to both wrecks (sites 18CH912 and 18CH913) pursuant to the Maryland Submerged Archaeological Historic Property Act, *Md. Code Ann., State Fin. & Proc. §§ 5A-333 et seq.* This act provides the state of Maryland with legal title and authority to regulate all submerged archaeological historic property that is embedded in submerged lands and have remained unclaimed for 100 years or longer; or is on or embedded in submerged lands and are included in or have been determined eligible for inclusion in the NRHP.⁴ This state law applies to any “watercraft or shipwrecks, whether standing, ruined, or vanished, and its debris field where the location itself retains historical or archaeological value regardless of the value of any existing structure.” The definition of shipwreck includes the entire structure and its interdependent and its interrelated parts under the Maryland Submerged Archaeological Historic Property Act, the ASA, and other federal laws that protect maritime cultural heritage assets. The state of Maryland and NOAA would continue to work with the private property owner and the commonwealth of Virginia to ensure the sustained management and protection of both wrecks.

⁴ Sections 5A-339 and 5A-340 establish the state of Maryland as the owner of any object or material of historical or archaeological value or interest found on a submerged or terrestrial archaeological site on land that the state owns or controls, and the owner of any submerged archaeological historic property on or taken from underwater land over which the state has sovereign control. The term “historic property” is broadly defined as any structure or object significant to the prehistory or history of the state; or the upland and underwater archaeology, architecture, engineering, or culture of the state. The definition of “historic property” includes related artifacts, records, and remains.



Figure 6. Detail of proposed boundary (orange line) adjacent to Fairview, Virginia.



Figure 7. Detail of proposed boundary (orange line) adjacent to Caledon, Virginia.

In addition to the resources listed in Table 8, there are important maritime heritage features dispersed throughout the waters and adjacent landscape of the Potomac River, including the water area associated with Alternative C (Table 7). These include: (1) the traditional homeland and cultural landscape of the Piscataway Indian Nation, Piscataway Conoy Confederacy and Sub-Tribes of Maryland, and the Patowomeck Indian Tribe; (2) several Revolutionary War, Civil War, and War of 1812 battlescapes; (3) the remains from historic fishing industry, including fish camps and related activity areas for net-tarring and caviar canning as well as two presidential fishing retreats; (4) African-American history, including records of slave and black freemen communities, possible Underground Railway resources, and records of their role in the shipbreaking and agricultural industries and (5) segments of steamboat routes and ferry crossings and the historic transit by Captain John Smith. The land-based component of these would not be part of the sanctuary nor subject to regulation as part of the sanctuary. However, as they are relevant to the historic resources of the sanctuary, non-regulatory programs for education and interpretation would help connect and retain their historical significance.

3.2.4 Alternative D. Approximately 100 square miles

Alternative D would include all the known shipwrecks in Alternative C, plus vessels known only from documentary sources, and would add additional areas to support recreation and tourism and would encompass approximately 100 square miles (see Figure 8). The boundary would begin at the Charles County shoreline near Pomonkey Creek just south of Anne Mason Court where the Maryland state waters and submerged lands begin at the mean high tide line. The eastern boundary would cross Pomonkey Creek in a straight line to Hallowing Point, Virginia. From there, the eastern boundary would follow the mean high tide line south to Pope's Creek, Maryland. From that point the boundary would extend south

across the Potomac River to the low water line at the Maryland-Virginia border near Persimmon Point on Mathias Neck, Virginia. The western boundary would extend north following the Maryland-Virginia border to Hallowing Point, Virginia, excluding the Quantico restricted areas shown in Figure 5. From there the boundary would extend back east across the Potomac River to the northeastern most point of the boundary near Pomonkey Point. The boundary would extend, from north to south along the Potomac River. The Maryland side of the boundary would include the waters of Mattawoman Creek, Chicamuxen Creek, Goose Bay, Wades Bay, Blue Banks, Mallows Bay, the Mallows Bay “Burning Basin” as far east as the egress for Marlow Creek into the basin itself, Liverpool Cove, Harrison Cove, Nanjemoy Creek, and Port Tobacco Creek. The boundary would be comprised of only property (submerged lands and waters) that is owned by the state of Maryland.



Figure 8: Boundary for Alternative D

In addition to resources in Alternatives B and C, this alternative would add potentially an additional 18 vessels known only from documentary sources may be in the area. Of the 18 vessels possibly in the area, two may date to the 18th century, three to the first quarter of the 20th century, and the remainder to the 19th century; mostly the latter half.

This alternative would incorporate larger portions of historically significant maritime heritage features dispersed throughout the waters and adjacent landscape of the Potomac River, including the water area associated with Alternative D (Table 7). These include: (1) the traditional homeland and cultural landscape of the Piscataway Indian Nation, Piscataway Conoy Confederacy and Sub-Tribes of Maryland, and the Patowomeck Indian Tribe; (2) several Revolutionary War, Civil War, and War of 1812 battlescapes; (3) the remains from historic fishing industry, including fish camps and related activity areas for net-tarring and caviar canning, as well as two presidential fishing retreats; (4) African-American history, including records of slave and black freemen communities, possible Underground Railway resources, and records of their role in the shipbreaking and agricultural industries and (5) segments of steamboat routes and ferry crossings and the historic transit by Captain John Smith. In addition, this area includes the escape route of John Wilkes Booth after his assassination of President Abraham Lincoln in 1865, as well as areas adjacent to Naval Support Facility Indian Head, as well as the U.S. Army's Blossom Point Research Facility, near Welcome, Maryland. The land-based component of these would not be part of the sanctuary nor subject to regulation as part of the sanctuary. However, as they are relevant to the historic resources of the sanctuary, non-regulatory programs for education and interpretation would help connect and retain their historical significance.

During the public scoping meeting and public comment period, NOAA received several public comments recommending that the proposed boundaries for MPNMS be expanded to include much of the Potomac River waterfront in Charles County, Maryland extending from approximately the town of Indian Head to north of the Maryland 301 bridge. The rationale submitted for the enlarged boundary were: 1) it potentially could incorporate 18 more historic shipwrecks dating from 1749, as well as historically significant Civil War water routes and marine battlescapes and the water escape route of John Wilkes Booth; 2) it would allow for the possibility of a national marine sanctuary visitors center to be constructed at the town of Indian Head, and assist with community revitalization efforts; and 3) it would provide for a complete representation of the environments on every riverine system in the coastal plain of Chesapeake tidewater. Alternative D addresses these comments.

3.2.5 Alternatives considered but not carried forward for further analysis

NOAA considered, but did not carry forward the analysis of two additional alternatives. One alternative considered was a one square mile area with the highest concentration of ships that would have included Mallows Bay, Liverpool Cove, and the Mallows Bay "Burning Basin" as far east as the egress for Marlow Creek into the basin itself. The second alternative considered would have included the area described in the community-based nomination submitted to NOAA that has a slightly smaller boundary from the National Register Mallows Bay-Widewater Historical and Archeological District. In both cases the alternatives were not analyzed any further because they did not meet the purpose of this action since they would not include the complete inventory of nationally significant maritime cultural heritage resources that the proposed action seeks to protect.

3.2.6 Regulations proposed for all action alternatives

NOAA is proposing to implement three regulations for all the action alternatives (alternatives B, C, and D) under the NMSA to protect the maritime cultural heritage resources and supplement and complement existing federal and state authorities in the geographic areas described in the boundary alternatives above. The sanctuary-wide regulations would prohibit: 1) damaging sanctuary historical resources; 2) damaging

any signs or markers related to the sanctuary; and 3) interfering with an investigation in connection with enforcement of the NMSA, sanctuary regulations, or sanctuary permit. NOAA is proposing these regulations with an exception for activities that are necessary to respond to emergencies that threaten lives, property, or the environment and for law enforcement activities. NOAA is also proposing to address Department of Defense (DoD) activities separately. See Appendix D of this document for a draft version of the final rule, which promulgates the designation of the sanctuary and implements its regulations. The final version of the rule will be published no earlier than 30 days after publication of this FEIS.

The regulation prohibiting damage to sanctuary historical resources would apply to any resource possessing historical, cultural, archaeological, or paleontological significance, including sites, contextual information, structures, districts, and objects significantly associated with or representative of earlier people, cultures, maritime cultural heritage, and human activities and events. These regulations also would include an exemption to the prohibition for damage to sanctuary historical resources for “traditional fishing,” and “Traditional fishing” is defined in 922.201 as “those commercial, recreational, and subsistence fishing activities that were customarily conducted within the Sanctuary prior to its designation or expansion, as identified in the relevant Final Environmental Impact Statement and Management Plan for this Sanctuary”.

For the proposed sanctuary this would include, but would not be limited to, any sunken watercraft and any associated rigging, gear, fittings, trappings, and equipment; the personal property of the officers, crew, and passengers, and any cargo; and any submerged or partially submerged prehistoric, historic cultural remains, such as docks, piers, fishing-related remains (e.g., weirs, fish-traps), or other cultural heritage materials. Sanctuary resource also would mean any archaeological, historical, and cultural remains associated with or representative of historic or prehistoric American Indians and historic groups or peoples and their activities. Historical resources would include, but would not be limited to, “cultural resources,” “submerged cultural resources,” and also include “historical properties,” as defined in the NHPA, as amended, 54 U.S.C. 300101 *et seq.*, and its implementing regulations, as amended.

Damaging a sanctuary resource would include moving, removing, recovering, altering, injuring, destroying, possessing, or attempting to move, remove, recover, alter, injure, destroy, or possess a sanctuary historical resource. The prohibition would not apply to possessing historical resources removed from the sanctuary area before the effective date of the sanctuary designation. The goal of this regulation would be to protect the historical resources from any kind of alteration or disturbance by any type of human activity. This regulation would enhance the current Maryland law related to historical resources, and would no longer allow the removal of a minimum number of artifacts under the exception in the Maryland Submerged Archaeological Historic Property Act for an area listed on the National Register.

The proposed regulatory prohibition would complement what is already offered under NHPA for resources within the historic district. The main difference is that the proposed regulation would offer civil/administrative enforcement mechanism and a penalty provision and thus may be more effective in deterring destructive practices. Alternatives C and D would provide protections through prohibitions and penalties for resources outside the historic district that may not currently exist. The only difference between alternatives C and D is that D would provide a larger area of protection and potentially 18 more wrecks yet to be identified.

The regulation prohibiting damage to signs or markers would include marking, defacing, or damaging in any way, or displacing or removing or tampering with any signs, notices, or placards, whether temporary or permanent, or with any monuments, stakes, posts, buoys, or other boundary markers related to the sanctuary. The proposed action would recognize that these items are federal properties that are part of the management of the sanctuary and that contribute to education and outreach programs. The proposed sanctuary rule would complement and supplement existing federal laws that protect federal property.

In developing the proposed rule, NOAA did not anticipate that many, if any, current DoD activities would adversely impact sanctuary resources. However, following interagency consultation with DoD components (including DoN, the Marine Corps, and the U.S. Army), NOAA has established an improved framework for MPNMS and DoD to co-exist. Under this improved framework, NOAA and DoD agree that all military activities will be carried out in a manner that avoids, to the maximum extent practicable, any adverse impacts on sanctuary resources and qualities (Appendix F). Based on information provided by DoD on its activities in the area, and analyzed by NOAA in its FEIS, the three prohibitions will not apply to existing military activities as described in the FEIS, or to the following activities:

- i) Low-level overflight of military aircraft operated by DoD;
- ii) The designation of new units of special use airspace;
- iii) The use or establishment of military flight training routes;
- iv) Air or ground access to existing or new electronic tracking communications sites associated with special use airspace or military flight training routes; or
- v) Activities to reduce or eliminate a threat to human life or property presented by unexploded ordnances or munitions.

Additionally, new military activities that do not violate the three prohibitions would be allowed in the sanctuary. Any new military activity that is likely to violate sanctuary prohibitions may become exempt from the prohibitions through consultation between the director and DoD pursuant to Section 304(d) of the NMSA. The term “new military activity” includes, but is not limited to, any existing military activity that is modified in any way (including change in location, frequency, duration, or technology used) that is likely to destroy, cause the loss of, or injure a sanctuary resource, or is likely to destroy, cause the loss of, or injure a sanctuary resource in a manner or to an extent that was not considered in a previous consultation under Section 304(d) of the NMSA.

As part of the proposed designation, NOAA is also recommending giving the sanctuary the ability to issue emergency regulations. Emergency regulations would be used when there is an imminent risk to sanctuary resources and a temporary prohibition would prevent the destruction or loss of those resources. Emergency regulations could only be issued for a fixed amount of time that address the imminent risk, not to exceed six months and could only be renewed once for an additional six-month period. A full rulemaking process must be undertaken to consider making emergency regulations permanent or otherwise extending the emergency regulations beyond the renewal period. Department of Defense activities are not subject to emergency regulations.

3.2.7 Permits, certifications, and authorizations

NOAA is proposing to include the authority to issue general permits, special use permits, certifications, and authorizations to allow regulated activities to occur in the sanctuary under certain conditions. Because

of the limited number of regulated activities described above NOAA does not anticipate needing to frequently use these authorities but having a range of options available will provide NOAA flexibility to address proposed activities while protecting the sanctuary historical resources.

NOAA would have the authority to issue permits to allow certain otherwise prohibited activities. Similar to other national marine sanctuaries, NOAA intends to consider issuing general permits only for the purposes of sanctuary education, research, and management. NOAA would execute this permit authority using the existing procedure and review criteria which require permit applicants to provide a description of the proposed activity, a timeline, information on the equipment, personnel and their qualifications, methodology to be used, and potential effects of the activity on sanctuary resources.

Special use permits (SUPs) are established in Section 310 of the NMSA (16 U.S.C. 1441) to authorize specific activities in a sanctuary if the permit is necessary (1) to establish conditions of access to and use of any sanctuary resource or (2) to promote public use and understanding of a sanctuary resource. Special use permits are generally issued for activities that require access to the sanctuary to achieve a desired goal. The activities that qualify for SUPs are set forth in the Federal Register (78 FR 25957; May 3, 2013 and 82 FR 42298; September 7, 2017). Categories of SUPs may be changed or added to through public notice and comment. The current list of categories subject to the requirements of SUPs is:

- 1) The placement and recovery of objects associated with public or private events on non-living substrate of the submerged lands of any national marine sanctuary.
- 2) The placement and recovery of objects related to commercial filming.
- 3) The continued presence of commercial submarine cables on or within the submerged lands of any national marine sanctuary.
- 4) The disposal of cremated human remains within or into any national marine sanctuary.
- 5) Recreational diving near the USS *Monitor*.
- 6) Fireworks displays.
- 7) The operation of aircraft below the minimum altitude in restricted zones of national marine sanctuaries.
- 8) The continued presence of a pipeline transporting seawater to or from a desalination facility.

The SUP for recreational diving near the USS *Monitor* and the operation of aircraft would not apply in the proposed sanctuary because USS *Monitor* is located in a different sanctuary. The SUP for operation of aircraft below the minimum altitude in restricted zones would also not apply because there are no proposed restricted zones for this proposed sanctuary. In addition, the SUP category relating to operation of a desalination facility only applies to Monterey Bay National Marine Sanctuary (see 82 FR 42300). SUP applications would be reviewed to ensure that the activity is compatible with the purposes for which the sanctuary is designated and that the activities carried out under the SUP be conducted in a manner that does not destroy, cause the loss of, or injure sanctuary resources. NOAA also requires SUP permittees to purchase and maintain comprehensive general liability insurance, or post an equivalent bond, against claims arising out of activities conducted under the permit. The NMSA allows NOAA to assess and collect fees for the conduct of any activity under a SUP. The fees collected would be based on the administrative costs of issuing the permit, the cost of implementing the permit, and the fair market value of the use of sanctuary resources.

NOAA will also issue certifications for pre-existing authorizations or rights. Here, the term “pre-existing authorizations or rights” refers to any leases, permits, licenses, or rights of subsistence use or access in existence on the date the sanctuary designation becomes effective. The certification process essentially “grandfathers in” existing activities while seeking to minimize the impact on sanctuary resources through terms or conditions worked out during the certification process. Applications for certifying pre-existing authorizations or rights must be received by NOAA within 180 days of the effective date of the designation.

NOAA also assumes authority to issue authorizations. An authorization allows an otherwise prohibited activity to occur in a sanctuary, if such activity is specifically authorized by any valid federal, state, or local lease, permit, license, approval, or other authorization. Similar to certifications, NOAA may issue terms and conditions as part of an authorization to minimize the impact of the proposed activity on sanctuary resources.

3.2.8 Non-regulatory programs for all action alternatives

In addition to the proposed regulations described above, NOAA is also proposing non-regulatory programs that would apply to all the action alternatives (alternatives B, C, and D). The non-regulatory programs are described in detail in the FMP (see Appendix A). The FMP describes all of the management actions and strategies that NOAA intends to implement in order to protect the nationally significant resources within MPNMS, to help conserve and promote the shipwrecks that have been located and those that await discovery. Each resource is a unique and fragile element in our nation’s history that MPNMS is dedicated to preserving, interpreting, and promoting for future generations.

The FMP is comprised of five action plans (Resource Protection; Recreation and Tourism; Education; Research, Science, and Technology; and Sanctuary Operations and Administration). It sets priorities to guide sanctuary programs and operations and provide the public with an understanding of the sanctuary’s strategies to conserve and promote the national maritime historic resources of MPNMS. The actions are designed to strengthen and complement existing regulatory and non-regulatory protections currently in place under the state of Maryland and Charles County.

NOAA proposes to work in full cooperation with the state of Maryland DNR and the MHT as well as with Charles County in their role as trustees for state resources on the FMP action plans. In addition, partnerships with private businesses, non-governmental organizations, educational and cultural institutions, and other local, state, and federal agencies provide expertise for scientific research and exploration, resources and capacities for site monitoring and enforcement, and support for education and outreach programs. The many partnerships developed over the course of this nomination and designation process have been, and will continue to be, critical to the success of the sanctuary.

The FMP is specific to NOAA’s actions but links to and identifies the actions and responsibilities of partner management agencies, all of which will be an integral component of MPNMS success. Public involvement has been valuable throughout the nomination and designation processes, and will continue to be valuable, through opportunities to volunteer and to participate on the Sanctuary Advisory Council.



Chapter 4

AFFECTED ENVIRONMENT

4.1 INTRODUCTION

Consistent with NEPA requirements, this chapter describes the environment of the area to be affected by the alternatives presented in Chapter 3. Resource descriptions are provided for the physical, maritime cultural landscape, biological, and socio-economic resources, and DoD facilities of the Potomac River. A description is also provided that outlines consultations with the DoD, as well as a description of the regulatory framework within which this action is proposed.

The information in this section, together with other information in this document, provides the basis for NOAA's evaluation of the potential environmental impacts of the alternatives as described in Chapter 5 (Environmental consequences). The scope of the environmental impacts addressed in this FEIS focuses primarily on the maritime cultural heritage resources and primary human uses of the area. This chapter also describes the surrounding physical and biological environment since those resources are interconnected with the shipwrecks and related maritime resources.

4.2 PHYSICAL ENVIRONMENT

The proposed sanctuary is located within the Potomac River, which flows for more than 380 miles from its headwaters at Fairfax Stone, West Virginia to Point Lookout, Maryland where it connects to the Chesapeake Bay (see Figure 9). The Potomac River is the Chesapeake Bay's second largest tributary, with a mouth more than 11 miles wide. The drainage area of the Potomac River includes 14,670 square miles in four states: Virginia (5,723 sq. mi.), Maryland (3,818 sq. mi.), West Virginia (3,490 sq. mi.), Pennsylvania (1,570 sq. mi.), and the District of Columbia (69 sq. mi.). See Section 4.2.2.2 on Water Dynamics for more information.

4.2.1 Geology

The Maryland Geological Survey is charged with investigating the geologic and water resources of Maryland. Maryland is part of six physiographic provinces (shown in Figure 10 below). A physiographic province is a geographic area in which the geology (including lithology and structure) and climate history have resulted in landforms that are distinctly different from adjacent areas.

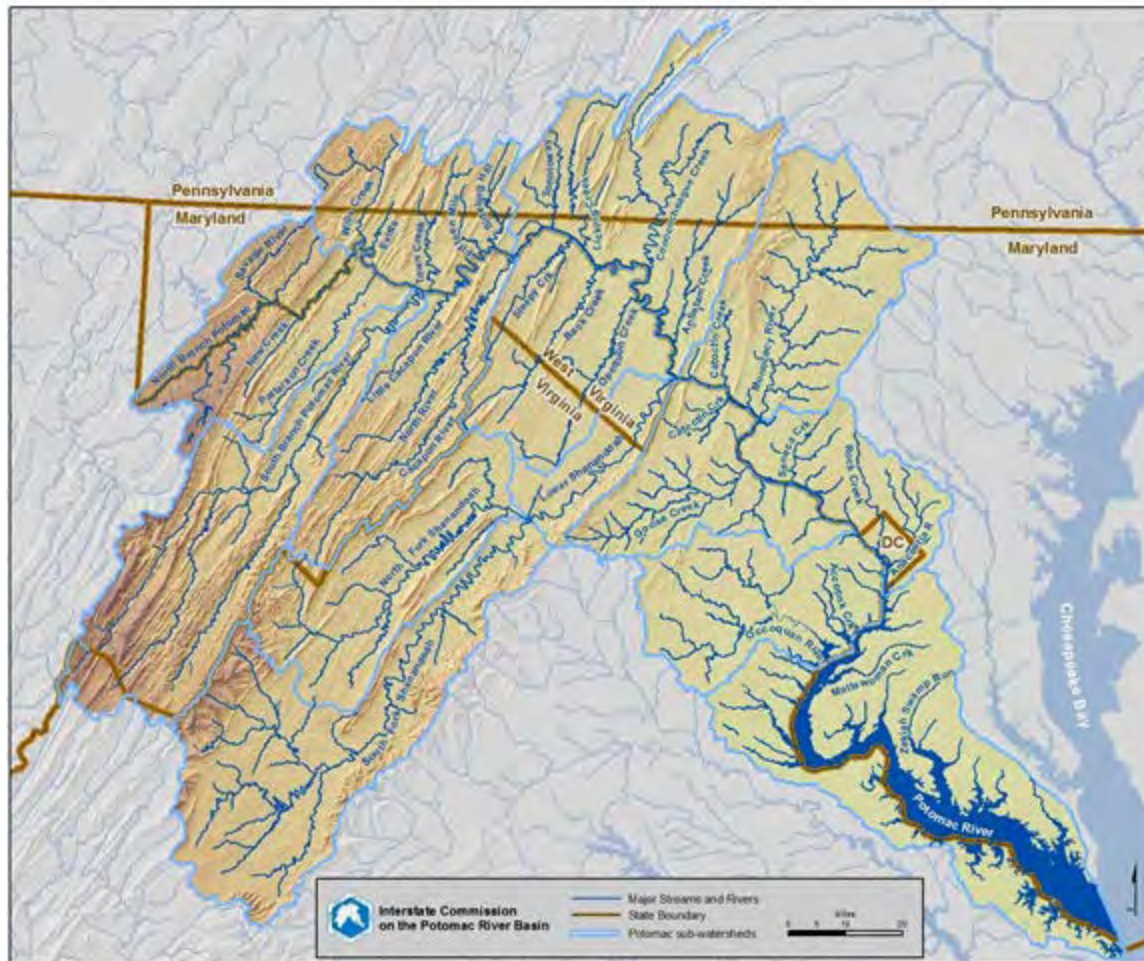


Figure 9: The Potomac River Basin. Source: Interstate Commission on the Potomac River 2016.

Charles County falls within the Atlantic Coastal Plain Province. The Atlantic Coastal Plain Province is underlain by a wedge of unconsolidated sediments including gravel, sand, silt, and clay, which overlaps the rocks of the eastern Piedmont along an irregular line of contact known as the Fall Zone. Eastward, this wedge of sediments thickens to more than 8,000 feet at the Atlantic coast line.

The sediments of the Coastal Plain dip eastward at a low angle, generally less than one degree, and range in age from Triassic to Quaternary. The study area itself is composed mostly of Quaternary lowland deposit sediments, including sand, silt, gravel, clay, and peat. Mineral resources of the Coastal Plain are chiefly sand and gravel, and are used as aggregate materials by the construction industry. Clay for brick and other ceramic uses is also important. Small deposits of iron ore are of historical interest. Plentiful supplies of groundwater are available from a number of aquifers throughout much of this region.

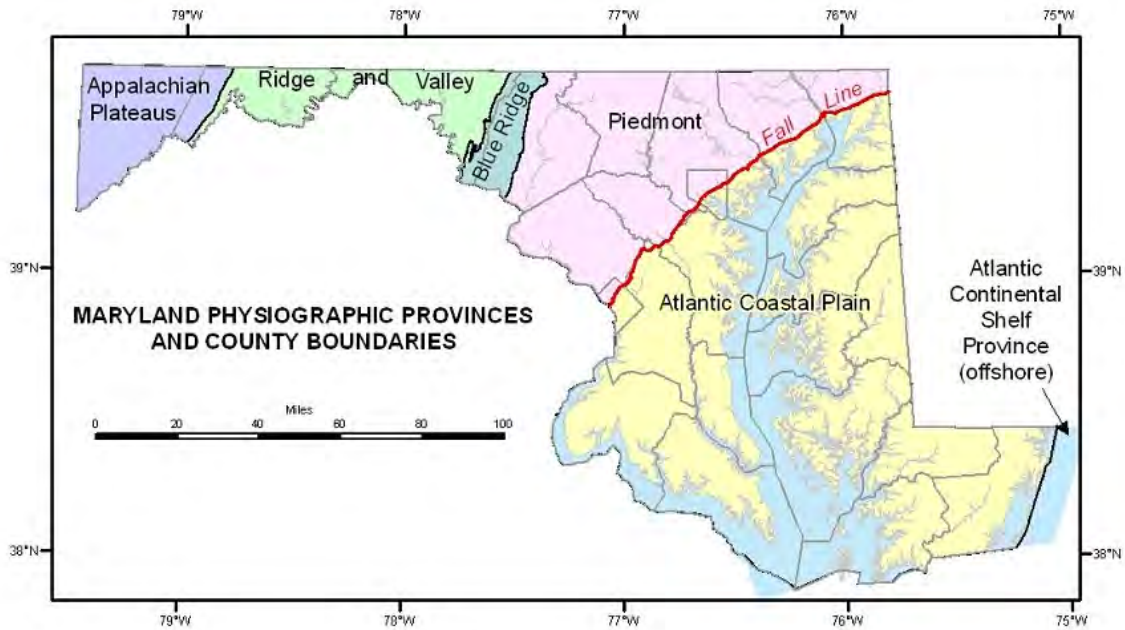


Figure 10: Maryland physiographic provinces and county boundaries. Source: Maryland Geological Survey 2016.

4.2.2 Water resources

4.2.2.1 Water quality/quantity

Maryland's water quality standards

The Maryland Department of Environment is responsible for assessing water quality in accordance with the federal Clean Water Act. The purpose of Maryland's water quality standards is to protect, maintain, and improve the quality of the state's surface waters. Maryland's water quality standards have three main components: designated uses, water quality criteria to protect designated uses, and an anti-degradation policy. Designated uses are goals for water quality and are usually an appropriate intended use by humans and/or aquatic life. Each waterbody (stream segment, lake, bay, etc.) is assigned one or more designated uses, such as human recreation, shell-fishing, human water supply, or aquatic life habitat. Although these designated use goals may not be currently met, each must be attainable for that water body. This section of the Potomac River is labeled "Lower Potomac River Olighaline," and is designated Use II for Migratory Spawning & Nursery Use, Shallow Water Submerged Aquatic Vegetation Use, Open Water Fish & Shellfish Use, and Shellfish Harvesting Use.

Water quality criteria are generally numeric criteria that set the minimum water quality standards necessary to meet the designed uses. Maryland publishes criteria for protection of human health, protection of aquatic life and habitat, toxins such as lead, dissolved oxygen levels, turbidity, bacteria, and temperature. Maryland's water quality criteria are updated every three years and published in the Code of Maryland Regulations (COMAR). The antidegradation policy is the last component of the Maryland water quality standards. This policy assures that water quality continues to support designated uses.

Maryland's 2014 Integrated Report on Surface Water Quality

Maryland's 2014 Integrated Report (IR) on Surface Water Quality combines water quality reports required under sections 305(b), 314, and 303(d) of the federal Clean Water Act. Section 305(b) requires states, territories, and authorized tribes to perform annual water quality assessments to determine the status of jurisdictional waters. The report is available at:

<http://www.mde.state.md.us/programs/Water/TMDL/Integrated303dReports/Pages/2014IR.aspx>. Section 314 requires states, territories, and authorized tribes to classify lakes according to eutrophic condition and to identify lakes known to not meet water quality standards. Section 303(d) requires states, territories, and authorized tribes to identify waters assessed as not meeting water quality standards (see Code of Maryland Regulations 26.08.02). Waters that do not meet standards may require a Total Maximum Daily Load (TMDL) to determine the maximum amount of an impairing substance or pollutant that a particular water body can assimilate and still meet water quality criteria.

A brief history of TMDL in the Chesapeake Bay watershed is provided in the 2014 Report:

In the 1996 and 1998 303(d) Lists, specific Maryland tidal tributaries of the Chesapeake Bay were identified as being impaired for nutrients and sediments. These nutrient and sediment impairments were assessed at the 8-digit watershed scale and were included in the 1996-1998 Memorandum of Understanding between EPA and MDE (hereafter referred to as 'MOU listings'). Between 1996 and 2008, Maryland developed TMDLs to address many of these tidal nutrient MOU listings. As these TMDLs were completed and submitted to EPA, MDE received credit towards meeting the MOU for addressing these nutrient impairments.

In 2004, EPA and the Bay states began work on the development of the Chesapeake Bay TMDL. In anticipation of this Bay-wide TMDL, MDE published a list of watersheds in the Maryland Register with their associated impairments that MDE had determined would be addressed via the Chesapeake Bay TMDL. For the most part, these impairments consisted of the tidal nutrient and sediment impairment listings for which MDE had not yet developed a TMDL. However, there were some watersheds on this list that were inadvertently included (e.g. Potomac River Montgomery County) and others that were inadvertently excluded from the 2004 Maryland Register list (e.g. Magothy River). This was Maryland's first public notification that the Chesapeake Bay and its tidal tributaries (hereafter referred to as simply "Chesapeake Bay") would be addressed via the Chesapeake Bay TMDL.

In the 2006 IR, Maryland first introduced the new salinity-based segmentation scheme for the Chesapeake Bay. The 2006 IR thus served as a transitional report which cross-walked the older 8-digit watershed assessment scale nutrient and sediment listings to the new salinity-based assessment scale listings. In 2008, Maryland fully adopted the salinity-based Chesapeake Bay segments as the spatial assessment scale and made other refinements to the way nutrient and sediment impairments were listed. In particular, Chesapeake Bay nutrient listings were now separately identified for the nutrients nitrogen and phosphorus. In addition, nutrient assessments were now identified for each subcategory designated use (e.g. Open Water, Deep Water, etc.) that applied within a given monitoring segment. One nuance with this spatial cross-walk (8-digit watershed to salinity-based segment) was that some 8-digit watersheds overlapped with multiple salinity-based segments, and vice versa. This meant that the MOU credits, for 8-digit watershed

nutrient and sediment impairment listings that were not yet addressed via a TMDL, had to be transferred to the appropriate salinity-based bay segment(s).

The approval of the Chesapeake Bay TMDL in December of 2010 meant that all of the remaining Category 5 (impaired, TMDL needed) nutrient and sediment Chesapeake Bay listings, including those mentioned in the MOU, had now been addressed by TMDLs. The Bay TMDL also addressed/overlapped segments with previously completed TMDLs. It's also worth noting that the Bay TMDL even addressed water segments not identified as impaired (e.g. Fishing Bay Mesohaline, (FSBMH) was in Category 3 – insufficient information). In summary, the Bay TMDL addressed all nutrient and sediment impairments in the Chesapeake Bay and its tidal tributaries. Since the 2010 Integrated Report had been submitted to EPA prior to the finalization of the Bay TMDL, the actual administrative process of moving these listings from Category 5 to Category 4a on the Integrated Report did not occur until the following reporting cycle (2012). The timeline shown in Figure 17 below summarizes these changes to Maryland's tidal nutrient and sediment impairment listings. Table 48 shows the public review periods provided for each of the past 7 Integrated Reports (303(d) Lists). To see records of the public review process for the Chesapeake Bay TMDL please read Section 11 of the Chesapeake Bay TMDL located at: <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html>.

The Lower Potomac River Oligohaline segment is designated as a class 4a water. TMDLs were approved in 2010 for nitrogen and phosphorous due to agricultural pollutant sources. TMDL's have also been in place for the Lower Potomac River since 2007 for polychlorinated biphenyls (PCBs) found in fish tissue.

Discharge of dissolved nutrients (i.e. organic carbon, phosphorus, and nitrogen) from both point and nonpoint sources often causes low concentrations of dissolved oxygen, blue-green algae blooms, and eutrophication in the tidal Potomac River (USGS 1984, pgs. 3, 10). According to the U.S. Geological Survey (USGS) Water Quality Study of the Tidal Potomac River and Estuary:

Imbalances in the riverine ecosystem of the tidal Potomac River have led to algal blooms, low dissolved-oxygen concentrations, fish kills, changes in fish species, decrease in numbers of waterfowl, and decline in submersed plants during the last 30 to 50 years (1984; pg. 15).

4.2.2.2 Water dynamics

The Chesapeake Bay is an estuary, in which fresh river water mixes with saltwater from the Atlantic Ocean. The area in which the sanctuary is located is freshwater, but is affected by tides in which some salinity (i.e., greater than zero parts per thousand) is present.

Much of the Chesapeake Bay is shallow (i.e., <20 feet deep), with water levels that change continuously with the tides and thus undergo extreme environmental fluctuations through the year. In the summer, shallow waters become very warm, often resulting in oxygen-depleting algal blooms. In winter, ice often covers the water. Shallow waters are constantly affected by wind and waves which suspend sediments and increase turbidity. Spring rains can lead to runoff of sediment and nutrients from the land and into the Chesapeake Bay and tributaries, which clouds shallow water. Heavy rainstorms also affect the salinity of the shallow waters. The river flow rate also changes seasonally and varies year to year. The USGS 51-year average is 11,400 cubic feet per second (USGS 1984).

The portion of the tidal Potomac River within the study area is known as the transition zone, a zone of mixing between fresh water of the Potomac River and salt water of the Chesapeake Bay. According to the USGS Water Quality Study of the Tidal Potomac River and Estuary:

The transition zone is a region of comparatively high biological production and diversity characterized by the interaction of two opposing water masses (river and ocean). ...the transition zone's bottom topography is characterized by a deep channel with an adjacent marginal slope that is bordered by a wide, shallow shelf. The channel ranges in depth from 20 feet to 107 feet (1984; pg. 3).

4.2.3 Air quality

The Maryland Department of the Environment (MDE) monitors and regulates air quality within the state in coordination with the EPA. MDE's Ambient Air Monitoring Program measures ground-level concentrations of criteria pollutants and air toxics, along with surface and aloft meteorological parameters. The program also performs quality control, quality assurance, and analysis of the pollutant concentrations that are measured at each of the air monitoring stations located throughout Maryland. It is responsible for Air Quality Index (AQI) reporting and issuing daily air quality forecasts as well as coordination of 3D air-shed photochemical grid and dispersion modeling.

The AQI is an index for reporting daily air quality. It describes the cleanliness of the air in a particular location and the associated health concerns with increasing pollutant levels. The AQI focuses on health effects a person may experience within a few hours or days after breathing polluted air. The EPA calculates the AQI for five major air pollutants regulated by the Clean Air Act: ground-level ozone (O₃), particle pollution (also known as particulate matter; PM_{2.5} or PM₁₀), carbon monoxide (CO), sulfur dioxide (SO₂), and nitrogen dioxide (NO₂). For each of these pollutants, EPA has established national air quality standards to protect public health. An AQI value of 100 generally corresponds to the national air quality standard for the pollutant, which is the level EPA has set to protect public health. AQI values below 100 are generally thought of as satisfactory. When AQI values are above 100, air quality is considered to be unhealthy for certain sensitive groups of people. As AQI values increase above 150, everyone in the affected area may experience health effects. The AQI is divided into six categories:

0 to 50	Good (air pollution poses little to no risk)
51 to 100	Moderate (acceptable; some moderate health concerns for a few people)
101 to 150	Unhealthy for Sensitive Groups (may cause a health effect for certain groups)
151 to 200	Unhealthy (may pose health effect for everyone)
201 to 300	Very Unhealthy (poses a health alert; everyone may experience health effect)
301 to 500	Hazardous (triggers health warnings of emergency conditions)

2015 EPA data for Charles County shows that of 215 days measured for AQI, 156 days were "good," 58 days were "moderate," and only 1 day was "unhealthy for sensitive groups."

Charles County also falls within the Washington, D.C.-MD-VA Nonattainment Area for failing to meet the National Ambient Air Quality Standards (NAAQS) for Ozone. MDE data for 2015 shows that this region experienced 5 days where the 8-Hour Ozone concentrations exceeded NAAQS.

4.2.4 Climate

Climate is defined as the average statistics of weather, which include temperature, precipitation, and seasonal patterns such as storms and wind, in a particular region. The Natural Resources Conservation Service National Climate Center gives the following summary (NRCS, 2017) of the climate in La Plata, Maryland:

In winter, the average temperature is 37.5 degrees F and the average daily minimum temperature is 28.1 degrees. The lowest temperature on record, which occurred at LA PLATA 1 W on January 22, 1984, is -8 degrees. In summer, the average temperature is 74.0 degrees and the average daily maximum temperature is 83.4 degrees. The highest temperature, which occurred at LA PLATA 1 W on September 10, 1983, is 103 degrees.

The average annual total precipitation is about 44.77 inches. Of this, about 27.9 inches, or 62 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 9.80 inches at LA PLATA 1 W on August 27, 1971. Thunderstorms occur on about 36 days each year, and most occur in July.

The average seasonal snowfall is 15.8 inches. The greatest snow depth at any one time during the period of record was 24 inches recorded on February 19, 1979. On an average, 14 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 24 inches recorded on February 19, 1979.

The average relative humidity in mid-afternoon is about 54 percent. Humidity is higher at night, and the average at dawn is about 75 percent. The sun shines 63 percent of the time in summer and 47 percent in winter. The prevailing wind is from the south. Average wind speed is highest, 11.1 miles per hour, in March.

Global climate change refers to the long-term and irrevocable shift in these weather related patterns, including the rise in the Earth's temperature due to an increase in heat-trapping or "greenhouse" gases in the atmosphere. Using ice cores and geological records, baseline temperature and carbon dioxide data extends back to previous ice ages thousands of years ago. Over the last 10,000 years, the rate of temperature change has typically been incremental, with warming and cooling occurring over the course of thousands of years. However, scientists have observed an unprecedented increase in the rate of warming over the past 150 years, roughly coinciding with the global industrial revolution, which has introduced tremendous amounts of greenhouse gases into the atmosphere.

In the last century, Maryland has documented more than a foot of sea level rise, increasing water temperatures in the Chesapeake Bay, more rain and flooding in the winter and spring and more arid summers. Maryland's people and their property, natural environment, and public investments are extremely vulnerable to climate change impacts. Maryland has more than 4,000 miles of shoreline across the state and the potential effects of climate change on these shorelines and the associated habitats are

varied and significant. Anticipated climate impacts on the shorelines and habitats along and within the sanctuary boundary range from increases in sea levels, coastal flooding, changes in saltwater regimes, increased air and water temperatures, and changes to extreme and precipitation events. Some of these climate impacts may impact the shipwrecks through changes in water conditions or rises in sea levels that may submerge the resource.

Since the Maryland Commission on Climate Change was established in 2007, the state has made significant strides to address both greenhouse gas emissions and mitigation, as well as pursue adaptation options. A wide variety of data and information about climate impacts is available. These include sea level rise projections, sea level inundation data layers, a Coastal Resiliency Assessment (http://dnr.maryland.gov/ccs/Documents/MARCH-2016_MDCoastalResiliencyAssessment.pdf), shorelines rates of change, and many others. These data and information are available to help assess risk to the cultural, historic, and natural resources located within the sanctuary boundaries.

4.2.5 Noise

Noise along the Potomac River environment, both above and below the water, can come from a variety of natural and anthropogenic sources. Anthropogenic sources include vessel traffic on land in the water, aircraft, research, construction, and military activities. Noise generated from these activities can be transmitted through both air and water, and may be long-lived or temporary. These various activities produce composite noise fields above and below the water. The intensity level and frequency of the noise emissions are highly variable, both between and among the various sources. While maritime cultural heritage resources considered in the sanctuary designation are not considered susceptible to impacts from noise, noise could impact the recreational uses of the area. Charles County passed a noise ordinance in 2008 that sets noise limits within the county to “promote public health, safety, and welfare, the peace and quiet of the residents of the county, and the use and enjoyment of both public and private property.” Additional zoning regulations were added in 2013 that set noise limits for residential zones adjacent to light industrial, planned employment park, heavy industrial, and business park zones.

4.3 MARITIME CULTURAL LANDSCAPE RESOURCES

As coined by Westerdahl (1992), maritime cultural landscapes include submerged, intertidal/foreshore/littoral and terrestrial resources as these relate and interrelate to maritime culture. While the community-based effort to nominate sections of the Potomac River and Mallows Bay as a national marine sanctuary was predicated on the existence of the rare and significant WWI/USEFC fleet remains and their attendant history to the present, as well as being appropriate to the commemoration of the centenary of WWI, it was not without awareness and consideration of the additional contributing elements of the maritime cultural landscape.

The sanctuary contains one of the largest and most varied assemblages of submerged maritime cultural heritage resources in the Western Hemisphere representing more than three centuries of American history, from the Revolutionary War era to the present. To date, over 100 vessels have been archaeologically identified and new wrecks are being discovered regularly as more surveys are undertaken. In April 2015 the Mallows Bay-Widewater Historic and Archeological District was listed on the National Park Service’s NRHP (For details of the listing see:

http://dnr.maryland.gov/ccs/Documents/MB_NRHP_RegForm.pdf. For the official listing notice see: <https://www.nps.gov/nr/listings/20150501.htm>). The NRHP application contains more detailed information about the historic, cultural, and archaeological significance of the site. What follows is an overview of the historical and cultural resources and landscape in the area arranged thematically. Based on Table 1: Resources by alternative, and the existing legal framework discussed in Chapter 2, it is appropriate to consider cultural resources within the affected environment. Table 7 identifies which resources are inside and outside of the Historic District.

4.3.1 WWI vessels and shipbreaking

Mallows Bay and its environs have the distinction of being the largest wooden ship graveyard in the Western Hemisphere (Shomette 1996,) as the burnt-out remains of 104 wooden steamships and a plethora of other vessels sit in the bottom sediments of the cove. Most of these ships, colloquially referred to as the “Ghost Fleet,” were built between 1917 and 1919 as part of a massive national wartime program that made the United States, for the first time in history, the greatest shipbuilding nation in the world. Throughout WWI, Germany’s unrestricted submarine warfare resulted in substantial merchant shipping losses for the Allied forces and by 1917, German submarines had destroyed more than five million tons of Allied merchant shipping (Shomette 1996). As a result, in 1917, the USEFC was formed to help offset these losses and it subsequently initiated one of the largest shipbuilding projects in American history. This project was so substantial that it required more than 40 shipyards in 17 states and nine different steamship designs and, by September 1918, for the first time in history, the United States was the world’s leading shipbuilder.

By the end of WWI, the USEFC had completed 322 wooden and composite steamships (Shomette 1996) and started a revival in wooden shipbuilding, a tradition which had quickly abated after the Civil War. Despite delays in production and efficacy criticisms, many of the vessels performed well, and world records were broken. The steamship *Aberdeen*, whose hulk is located near Widewater, was constructed faster than any other vessel, of similar tonnage, in the world and every record in shipbuilding was broken; its keel was laid on September 9, 1918 and on September 28, the steamship was launched. The steamship *Obak* was one of the fastest vessels in the fleet and averaged 12.01 knots, 2.01 knots above the contract requirement, and from full speed ahead, it could be brought to a standstill in two minutes, which was one and a half minutes faster than any other contemporaneous vessel on record (NRHP 1992).

Though not a single USEFC steamship sailed into a European harbor during the war, they did become an integral part of coastwise and transoceanic commerce and three steamships, the *Utoka*, *Alabat*, and *Brookdale*, were outfitted as cargo-carrying training cruisers. However, the return of the popularity of metal hulled vessels and the introduction of diesel engines rendered these steamships obsolete before the project reached fruition and during the “Great 1920 Tie-Up,” most of the USEFC steamships were moored in the James River. Through various failed corporate salvage operations, the steamships were brought to Mallows Bay where they were purposely scuttled, burned, and salvaged.

The remnants and debris from both local and industrial salvage operations resulted in the destruction of more than 80 steamships and created a landscape that more closely resembled a battlefield than an industrial salvage operation (Shomette 1996). The Western Marine and Salvage Company was the first to attempt to salvage the fleet. They towed the steamships to Widewater where they endeavoured to salvage, burn, and then sink the remaining hulls, a process fraught with mishaps and difficulties. On April 18,

1923, a watchman accidentally overturned a kerosene cook stove and several of the ships in Widewater anchorage caught fire, including *Alanthus*, whose hulk is located in Mallows Bay; this fire is recorded as “one of the most stubborn [fires] Alexandria firefighters have battled” (NRHP 1992). Soon after, salvage work quickly ground to a halt as local watermen and nature activists ardently protested their operations. Consequently, the salvage company purchased hundreds of acres along the opposite shoreline and towed the steamships to Mallows Bay where they resumed salvage activities. In 1931, the company was forced to declare bankruptcy and abandon the ships. The second, and last, large-scale industrial salvage attempt occurred in the 1940s when the United States government allocated thousands of dollars to Bethlehem Steel to recover the metal from the steamships. This industrial salvage operation was also quickly abandoned as, by 1944, the demand for metal had slowed and Bethlehem Steel halted operations at Mallows Bay.

Mallows Bay is not only the final resting place of the first steamship built by the USEFC, *North Bend*, but also some of the last, including *Boyton*, *Munra*, *Wonahbe*, and *Owatam*. Furthermore, several of the hulks, both at Widewater and at Mallows Bay, such as the aforementioned *Aberdeen*, *Obak*, and *Alanthus*, broke world records and were part of major, historic local events. These wrecks represent the end of a shipbuilding era and their successive dismantling helped support the local economy. During the Great Depression, the area provided subsistence income and materials for local residents and scrap collectors who salvaged the metal from the wrecks. “Potomac Arks” were essentially houseboats on scow barge hulls that, when free floating, allowed the owner to avoid paying property taxes. They were used for a myriad of purposes including housing for ship chandleries and stores and lodging for local salvors. Gamblers, bootleggers, and prostitutes also used “Potomac Arks” from, at least, the Civil War era until the 1960s. The industrial salvage operations, both in the 1920s and then in the 1940s, drastically impacted both the submerged cultural resources and landscape of the embayment. For example, Western Marine and Salvage installed four railways on Sandy Point and Bethlehem Steel created a large burning basin at the outlet of Mallows Creek.

In the 1960s, during the congressional hearings regarding possible removal of the ships, several groups suggested that the ship hulls, having been there for almost 40 years, had become an integral part of the Mallows Bay ecosystem and the local fishery. For various reasons they were never removed, and the ships remain today. Over the years, many of the sunken vessels have trapped sediments and collected plant life becoming artificial islands (Shomette 1996).

4.3.2 Other submerged historical and cultural resources

In addition to the wooden and composite steamships, other ship remains have been found including 12 barges, several 19th century log canoes and schooners, various workboats, a car ferry, and possibly a Revolutionary War longboat.

The longboat, which may be located in Liverpool Cove at the back of Mallows Bay, would be the remains of a patriot longboat used by *Protector*, a Virginia Flotilla galley, that anchored near Mallows Bay so its men could join forces with the Maryland militia (Shomette 1996; NRHP 1992). On July 23, 1776, the men from *Protector* arrived in Mallows Bay aboard two longboats and were set-upon by Lord Dunmore’s Loyalist Flotilla led by Virginia’s deposed Governor James Murray, the Earl Lord of Dunmore, and manned by loyalists and freed slaves. Dunmore entered the Potomac to try and secure water for his crew and to “harass and annoy the Enemy by landing at different places” (Shomette 1996; NHRP 1992).

Dunmore's fleet exchanged gunfire with the local patriot militia and attempted to seize both of *Protector's* longboats. The patriot forces retreated, but before they fled, they smashed a hole in the bottom of one of the longboats to prevent its capture.

Historical records indicate that three sturgeon skiffs, *Black Bottom*, *W.S. Childs*, and *Edythe*, were abandoned in the area in 1926. These ships were built in 1888 in Philadelphia and imported into the area via train by Captain Morgan L. Monroe, who used them in his sturgeon fishing and processing operations. These skiffs were the last "foreign vessels" to gain popularity on the Potomac (NRHP 1992).

Another workboat, the two-masted pungy schooner *Capitol*, was involved in the first recorded maritime tragedy in the area. In 1896, two pungy schooners, *Capitol* and *Dove*, were sailing in tandem when they were swamped during a storm off Sandy Point. *Dove* and its crew were eventually saved but all personnel aboard *Capitol*, including the captain, perished and the ship foundered (NRHP 1992).

The remains of at least one centerboard canoe are found in Liverpool Cove. These vessels were common workboats from the 17th through the 20th centuries and have a unique shell-first design. For shell-first construction, the frames, which only provide lateral support for the ship and do not dictate its shape or form, are only added to the vessel after the hull has been assembled (Shomette 1996). Near the centerboard canoe lies the remains of a centerboard schooner (Wreck No. 114) which has a flat-bottomed sharpie configuration. It might be the largest sharpie on record in the Chesapeake and the only one archaeologically documented on the Potomac River (Shomette 1996).

Near the southern end of Mallows Bay rests *Ida S. Dow*, one of the last four-masted schooners to be constructed. Built in 1918, this merchant schooner survived the "Great Tie-up of 1920" but was damaged in a collision with a German steamship in 1931 (Shomette 1996). Several years later, in 1934, it was acquired by salvors who anchored it in Mallows Bay and used it as a dormitory for the wreckers. In 1936, as it was no longer suitable for service, it was scuttled and abandoned. A popular story, published by historian Fred Tilp, states that the vessel also served as a temporary residence for prostitutes who peddled their trade to the salvors in the areas (NRHP 1992; Tilp 1982).

There is one warship in Mallows Bay: the SS *Bodkin*, ex-USS *Nokomis*. Built in 1914, the yacht was commissioned as a submarine chaser for the United States Navy in 1917. The vessel was a composite steamship of steel construction but with wooden planking, deckings, and transverse framing armed with four 3-inch guns and manned by 191 officers and crew. During WWI, it helped protect American troop transports approaching the French coast. After the war, it was decommissioned and used to conduct surveys in Mexican and Caribbean waters for the Hydrographic Office and, in 1938, was loaned to the Coast Guard where it was renamed SS *Bodkin*. Again, it was overhauled to be a submarine chaser, but work was suspended as German submarine activity lessened. In 1944, it was sent to Mallows Bay where Bethlehem Steel completely reduced the vessel (NRHP 1992).

Though it is one of the most recent wrecks in the area, *Accomac* is one of the largest and most visible vessels in Mallows Bay. The steamship was built in 1918 to service between Halifax, Nova Scotia, and Great Britain but, during World War II it was requisitioned by the United States government first for convoy duty then to haul rubber. A few years after the war, it was converted to diesel power and, in 1950, it underwent a massive overhaul that transformed it from a transport vessel to a car ferry capable of carrying 70 cars and 1,200 passengers. It was during this time that the distinctive "spoon" bow was added

(Shomette 1996). In 1964, the introduction of the interstate highway and Chesapeake Bay Bridge Tunnel made the ferry obsolete and it was permanently decommissioned by fire; in 1973 its hulk was towed to Mallows Bay.

4.3.3 Contributing cultural aspects of the maritime cultural landscape

Mallows Bay also has a rich maritime cultural landscape, defined as cultural and natural resources, human communities, and coastal environments within a geographic area that are connected with historic events, activities, or persons or demonstrate other aesthetic or cultural values (NPS 1997; TBNMS FEIS 2014). The area was one of President Grover Cleveland's favorite fishing retreats and served as President Calvin Coolidge's favorite duck hunting and fishing grounds. In 1903, Samuel Pierpont Langley made history when he flew his model of a "heavier-than-air-plane" 3,000 feet in 90 seconds from the roof of his "houseboat laboratory" at Widewater (NRHP 1992).

The area has been the locus of important activities pertaining to the development of the nation; it was the site of a land-sea skirmish between Royal Navy forces, the Virginia State Navy, and Maryland Militia during the American Revolution, as well as being the site of Pre-Civil War steamboat landings and Civil War campsites and batteries. The Confederate blockade-runner, *T.W. Riley*, is recorded as having sunk in adjacent Wades Bay and, in 1859, Cooke's Ferry was built at Sandy Point which later served as a transfer point for Confederate smuggling operations during the Civil War. From 1861-1862, Liverpool Point was held by a forward unit of Smith's fifth Excelsior Brigade and defended by several artillery batteries. In March 1862, an amphibious reconnaissance and raid, which involved over 1,000 men, was launched by Union forces from Liverpool Point and landed at Shipping Point on the Virginia side of the Potomac. During the mission, for the first time in history, a rapid fire Gatling gun was used by Union troops and it was later permanently stationed at Liverpool Point (NRHP 1992).

The region also contains the archaeological and cultural remains of several regimes of the Potomac fisheries industry from around 1840 through 1922, including pound net assemblage sites, domestic structures, net tarring facilities, sturgeon fishery sites, and a caviar processing plant. In the early years, fishing camps were established along the beach where the crew, usually comprised of slaves, lived during the fishing season (Shomette 1996). Also associated with the Potomac fisheries industry are the historic vernacular watercraft involved in its operations during the 19th and early 20th centuries including bugeyes, brogans, centerboard schooners, sharpies, crab scrapes, turtle scrapes, and sturgeon boats, some of which have been previously discussed.

4.3.4 Tribal resources

In addition to the items of significance noted above, this section of the Potomac River forms part of the traditional homeland and cultural landscape of the Piscataway Indian Nation and the Piscataway Conoy Confederacy and Sub-Tribes of Maryland, as well as the Patowomeck Indian Tribe of Virginia. Evidence for the depth of American Indian occupation of this area of the Potomac, from the Archaic Period to the Post-Contact Period, is provided both through archaeological investigations and cultural traditions of the Tribal people. The Piscataway have identified Mallows Bay and Liverpool Point (Charles County, Maryland) as areas of significance within their cultural landscape (Strickland, Busby and King 2015). It is very likely that Nussamek, one of the villages visited by Captain John Smith during the summer of 1608, is in this area. However, no archaeological sites have yet been identified in a submerged context. The

Patawomeck Indian Tribe of Virginia is based in Stafford County, Virginia and includes approximately 1,500 members (<http://www.patawomeckindiantribeofvirginia.org>). Their history dates to the 13th century. During the period of early English colonization, Captain John Smith visited their village on lands between Aquia Creek and Potomac Creek and Pocahontas was married to a Patawomeck warrior.

4.3.5 African-American history

African-American presence is also evident in the historic record, from as early as the 1640s, when the first African slaves were landed on Maryland shores and readily employed in the tobacco industry of the colony. By the time of the Civil War, Charles County's population was approximately 50 percent black, with slaves and black freemen alike engaged in tobacco agriculture and in the Potomac fisheries. During the war, African-Americans were recruited from the shores of Charles County to serve in the Union Army, but many returned to working as watermen for such fishery operations working from stations at Sandy Point and Liverpool Point.

During WWI, African-Americans were engaged in large numbers throughout the United States in the shipyards, lumber mills, and machine shops involved in building many of the wooden steamships now resting in Mallows Bay.

Both of these historically under-represented communities have important maritime ties to the natural and cultural landscapes and would benefit greatly from the establishment of a sanctuary which would provide tremendous and ongoing research and interpretive opportunities. The proposed MPNMS would serve as a research laboratory to provide information absent from the historical documents and to ground-truth and verify information from these documents. The types of information that can be learned from these sites include details about vessel design, use, evolution, and adaptation, as well as the unrecorded but substantial methodology of the shipbreaking processes and salvage operations. Archaeological evidence would also provide data on the site formation process and alteration of the physical landscape to support the use of the proposed MPNMS area as a major American ship graveyard.

4.4 BIOLOGICAL RESOURCES

The tidal Potomac River contains large beds of submerged aquatic vegetation that serve as important feeding grounds and spawning and nursery habitat for a variety of aquatic and non-aquatic organisms, including three fish species of Greatest Conservation Need identified in the 2015 Maryland State Wildlife Action Plan: American shad (*Alosa sapidissima*), hickory shad (*Alosa mediocris*), and white catfish (*Ameiurus catus*).

The presence of many shipwrecks and the construction of the ship-breaking burning basin and canal in the area have created a unique environment that includes mini-ecosystems aboard many vessels of the embayment, some with thriving populations of fauna and flora. The presence of the wrecks has also resulted in decreased erosion rates and increased accretion rates, creating wetland, woodland, and aquatic habitat above and below the waters. It is possible that valuable research opportunities on the physical and biological environment could increase, due simply to the broader awareness of the area brought forth by the sanctuary's presence. Understanding more about the biological environment through research efforts will help state and local managers target their programs effectively.

4.4.1 Fisheries

The Maryland DNR Fisheries Service is responsible for managing the tidal freshwater portion of the Potomac River. The Maryland DNR Southern Regional Office conducts several studies on three species of greatest management concern in this area: largemouth bass, northern snakehead, and blue catfish. In addition, the Maryland DNR conducts an annual [juvenile striped bass survey](http://dnr.maryland.gov/fisheries/Pages/striped-bass/juvenile-index.aspx) (<http://dnr.maryland.gov/fisheries/Pages/striped-bass/juvenile-index.aspx>). The juvenile striped bass survey documents annual year-class success for young-of-the-year striped bass and relative abundance of many other fish species at 22 fixed stations within Maryland's portion of the Chesapeake Bay. One station is within the sanctuary boundary, at Liverpool Point, while two more sampling stations lie just outside of the boundary at Indian Head and Blossom Point. Other data collected during these surveys include bottom types, percent coverage of submerged aquatic vegetation (SAV) in the sample area, water temperature, salinity, and sample depth. The fish species listed in Table 9 are all of the identified species found during the Juvenile Striped Bass Seine Surveys from 1957 to 2015 at these three sites.

Table 9: Fish species identified during juvenile striped bass surveys between 1957 and 2015 at three Potomac River seine survey sites.

Fish species identified between 1957-2015 from three Potomac River seine survey sites: Blossom Point, Liverpool Point, Indian Head		
Alewife	Fourspine stickleback	Sheepshead minnow
American eel	Gizzard shad	Silver perch
American shad	Golden shiner	Silverjaw minnow
Atlantic croaker	Goldfish	Silvery minnow
Atlantic menhaden	Hickory shad	Smallmouth bass
Atlantic needlefish	Hogchoker	Spanish mackerel
Atlantic silverside	Inland silverside	Spot
Atlantic thread herring	Largemouth bass	Spottail shiner
Banded killifish	Longnose gar	Striped anchovy
Bay anchovy	Mummichog	Striped bass
Black crappie	Northern hogsucker	Striped killifish
Blue catfish	Northern pipefish	Striped mullet
Blueback herring	Northern snakehead	Summer flounder
Bluefish	Oyster toadfish	Tessellated darter
Bluegill	Pumpkinseed	Threadfin shad
Bluespotted sunfish	Quillback	White catfish
Brown bullhead	Rainwater killifish	White crappie
Carp	Red drum	White mullet
Chain pickerel	Redbreast sunfish	White perch
Channel catfish	Redear sunfish	White sucker
Crevalle jack	Rough silverside	Winter flounder
Dusky pipefish	Satinfin shiner	Yellow perch

The following paragraphs further explain the habitat needs of a few of the most commonly found fish species from this list that are known to use habitat within the sanctuary boundary.

Alosines (shad and river herring) are commonly found in this portion of the Potomac River. Alosines include American shad (*Alosa sapidissima*), hickory shad (*Alosa mediocris*), blueback herring (*Alosa*

aestivalis), and alewife herring (*Alosa pseudoharengus*). Blueback and alewife herring are collectively known as “river herring” because they are nearly identical and difficult to tell apart. Alosines migrate along the Atlantic coast and return to their natal rivers to spawn, so healthy habitat within these rivers are critical for species success. Juveniles will remain in freshwater nursery areas in spring and summer, feeding mainly on zooplankton. As water temperatures decline in the fall, most juveniles move downstream to more saline waters, eventually to the sea; however, some will remain in deeper waters of the bay and its tributaries for their first winter. There is a statewide moratorium on the harvest of alosines in Maryland waters, but a catch and release recreational fishery is permitted.

American eel (*Anguilla rostrata*) larvae utilize the Potomac River through adulthood. After spawning occurs in the Sargasso Sea, larvae are carried by currents to areas along the Atlantic coast and eventually move into freshwater rivers and streams. They remain in these habitats for several years until they mature, before returning to the Sargasso Sea to spawn and then die.

Atlantic menhaden (*Brevoortia tyrannus*) find important nursery habitat in the Potomac River. Larval fish enter the Chesapeake Bay in late winter and early summer and move into lower salinity waters in estuarine tributaries where they are found in great numbers. These juveniles, along with other immature fish (ages 1 and 2), remain in the Chesapeake Bay and tributaries until the fall when most migrate to the ocean.

Blue catfish (*Ictalurus furcatus*) are not native to Maryland waters. They were stocked into Virginia tributaries of the Potomac River and have become very successful in the Potomac River since they prefer large rivers having deep channels with a swift current and a sandy bottom. They seek cool water in the summer and warmer waters in the winter. Blue catfish reproduce and grow exceptionally quick and therefore are a popular species for both recreational and commercial harvest. The Maryland DNR has been working with other agencies to assess the population size, monitor movements, and determine growth of blue catfish within the Potomac River.

Channel catfish (*Ictalurus punctatus*) are not native to Maryland waters, but they have become very successful in tidal and non-tidal waters across the state, including the tidal Potomac River. Channel catfish prefer deep pools around logs, rocks, and other structure where they can hide, making the WWI shipwrecks vessels ideal habitat.

Largemouth bass (*Micropterus salmoides*) are found in all waters of Maryland from freshwater to brackish (a mix of fresh and saltwater) waters. They like large, slow moving rivers or streams with soft bottoms. Largemouth bass are one of the most commonly sought recreational fishing species. Smallmouth bass (*Micropterus dolomieu*) are most commonly found throughout the non-tidal Potomac in areas upstream from the sanctuary. However, both largemouth and smallmouth bass are annually monitored for relative abundance, condition (relative weight), length at age, and other parameters, and previous surveys have indicated a healthy population of largemouth bass and occasional smallmouth. Bass populations are heavily dependent on SAV. Stable and abundant nearshore grass beds, such as those within the sanctuary, attract and provide much habitat for bass in this area.

Longnose gar (*Lepisosteus osseus*) are located with the tidal tributaries of the Chesapeake Bay. Gar spawn in shallow waters May through June. They tend to inhabit areas near downed trees, stone outcrops, and vegetation.

Northern snakehead (*Channa argus*) are native to the Yangtze River basin in China but have spread throughout the Potomac River. They can reach over 33 inches in length and tolerate a wide range of temperatures (32-85°F). Because of their feeding style, they could outcompete native fish such as largemouth bass. Biologists are also concerned that they could introduce parasites and diseases that could harm native species. Maryland DNR is working to prevent further spread of snakehead and to control established populations. In order to control the abundance of this species in invaded waters, anglers in Maryland and Virginia are required to kill any snakeheads that they catch.

Spot (*Leiostomus xanthurus*) migrate seasonally, entering bays and estuaries in the spring, where they remain until late summer or fall when they move offshore to spawn. Primary nursery areas for juvenile spot occur in low salinity areas of bays and tidal creeks, but they can also be found associated with eelgrass communities.

Striped bass (*Morone saxatilis*) are one of the most important recreational fish species in Maryland. The striped bass stock within Chesapeake Bay is composed of pre-migratory fish, primarily ages 10 and younger, and coastal migratory striped bass range in age from age 2 to more than age 30. Mature resident and migratory striped bass move into tidal freshwater in early spring to spawn. After spawning, migratory fish return to the coast.

White perch (*Morone americana*) are common in the Potomac River during the springtime spawning season. White perch spawn from April through June in fresh to low-salinity waters of large rivers over fine gravel or sand. Juveniles use inshore areas of the creeks downstream of their spawning area during the first summer and fall. Adults tend to inhabit open waters close to shore, but may also frequent quiet streams well up into the tributaries from March through November. During the winter months, they can be found in downstream portions of the Potomac River and deeper channel areas throughout the bay.

Yellow perch (*Perca flavescens*) are generally freshwater fish, but in Maryland have adapted to estuarine waters and have historically been reported in all of the Chesapeake Bay's major tributaries and streams. Adult yellow perch inhabit slow-moving, nearshore areas where moderate amounts of vegetation provide cover, food, and protection. Larval yellow perch will remain in the tributaries, but will generally migrate offshore to reduce their risk from predators. As juveniles, they move back to the shorelines to feed on the richer, nearshore food sources; at this stage, predator avoidance has been sufficiently developed.

4.4.2 Protected species/critical habitat

Federal

The Endangered Species Act (ESA) (16 U.S.C. 1531, *et seq.*) requires federal agencies to conserve endangered and threatened species and to conserve the ecosystems upon which these species depend. Under the ESA, activities that may affect protected species are regulated by NOAA's National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS). NMFS and USFWS also have authority to develop recovery plans and designate critical habitat for threatened and endangered species. There are two federally listed fish species which occur in the portion of the Potomac River considered in the alternatives for this proposed action, the shortnose sturgeon and the Atlantic sturgeon (see Table 9). The area proposed for designation includes critical habitat for Atlantic sturgeon.

Shortnose sturgeon

Shortnose sturgeon (*Acipenser brevirostrum*) are anadromous fish that share many of the same rivers and estuaries inhabited by Atlantic sturgeon. Shortnose sturgeon have a life cycle similar to Atlantic sturgeon moving between fresh and marine waters. Shortnose spawning occurs in upper, freshwater areas, while feeding may occur in both fresh and saline habitats. Shortnose sturgeon survive up to 40 years on average and prey mainly on aquatic invertebrates that live in the sediment.

Historical evidence dating back as far as the 19th century indicates the presence of shortnose sturgeon populations in the Chesapeake Bay and its tributaries. Areas where shortnose sturgeon have been captured or observed include the Potomac River, the upper bay near the mouth of the Susquehanna River, and the lower bay near the mouths of the James and Rappahannock rivers. The sturgeon fisheries began to decline in the 1950s. Pollution and overfishing, including bycatch in the shad and Atlantic sturgeon fisheries, have been listed as principal reasons for the shortnose sturgeon population decline. In the late 19th and early 20th centuries, shortnose sturgeon commonly were taken in a commercial fishery for the closely related and commercially valuable, Atlantic sturgeon. Mis-identifications occurred because, at smaller sizes, Atlantic sturgeon are easily confused with shortnose sturgeon. The shortnose sturgeon was first listed as endangered under the Endangered Species Preservation Act of 1966 (a predecessor to the ESA) on March 11, 1967 (32 FR 4001), and currently remains listed as an endangered species. Under the regulations implementing the ESA, it is unlawful to take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) endangered shortnose sturgeon (50 C.F.R. 17.11, 17.21(c)(1)).

NOAA issued a recovery plan for the species on December 17, 1998 (63 FR 69613). Shortnose sturgeon are vulnerable to habitat change due to the fact that they breed slowly, live long, and have very specific habitat requirements for different life stages. Heavy industrial development during the 20th century in rivers inhabited by sturgeon have also impaired water quality and impeded these species' recovery.

No critical habitat has been designated for this species as of the date of publication of this FEIS.

Atlantic sturgeon

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) are anadromous fish with adults typically spawning in freshwater in the spring and early summer before migrating into estuarine and marine waters for the remainder of their lives. The largest adults reach 60 years of age. Individuals usually live near the bottom of rivers and feed on aquatic invertebrates that live on or in the sediment. The species use tidal rivers as nursery habitat for young fish. Before the turn of the century, most major river systems, including the Potomac River, contained abundant, healthy stocks of Atlantic sturgeon. Atlantic sturgeon was an important commercial fish in the Chesapeake Bay. Atlantic sturgeon eggs were prepared as caviar, and the Chesapeake Bay supported the second greatest caviar fishery in the United States. However, by the end of the 19th century, high harvest rates drastically reduced abundances of Chesapeake Bay sturgeon. Combined effects of overfishing and deterioration of habitat have caused Atlantic sturgeon to decline to the point of extirpation in Chesapeake Bay (Secor et al. 1997). It is possible a small successful spawning population exists in the James River and York River in Virginia. The Maryland DNR has documented a spawning population in Marshyhope Creek, a tributary to the Nanticoke River in Maryland, but it is unknown whether successful spawning and recruitment is occurring.

On February 6, 2012, the NMFS issued a final rule (77 FR 5880; 50 C.F.R. 17.11) that listed the Atlantic sturgeon distinct population segment (DPS) for Chesapeake Bay as endangered under the ESA. The

endangered status is based on severely depleted population size resulting from heavy fishing in the 1800s and early 1900s. Currently, federal law makes it unlawful for any person to fish, harvest, possess, or retain any Atlantic sturgeon or their eggs (50 C.F.R. 697.7(d)). Despite these prohibitions, present threats to Atlantic sturgeon include habitat degradation, vessel strikes, and incidental catch and/or injury from other fishing activities.

On August 17, 2017, the NMFS issued a final rule (82 FR 39160) to designate critical habitat for the Chesapeake Bay DPS of Atlantic sturgeon. The critical habitat designation includes the Potomac River from the Little Falls Dam downstream to where the mainstem river discharges at its mouth into the Chesapeake Bay, of which contains MPNMS. The critical habitat designation seeks to increase abundance by facilitating increased successful reproduction and recruitment of Chesapeake Bay DPS of Atlantic sturgeon. The physical features that define the critical habitat for the species include: (1) hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0 to 0.5 parts per thousand (ppt) range); (2) aquatic habitat with a gradual downstream salinity gradient of 0.5 up to as high as 30 ppt and soft substrate (e.g., sand, mud) between the river mouth and spawning sites; (3) water of appropriate depth (e.g., at least 1.2 m in the main river channel) and absent physical barriers to passage (e.g., locks, dams, thermal plumes, turbidity, sound, reservoirs, gear, etc.) between the river mouth and spawning sites; and (4) water, between the river mouth and spawning sites, especially in the bottom meter of the water column, with the temperature, salinity, and oxygen values that, combined, support: (i) spawning; (ii) annual and interannual adult, subadult, larval, and juvenile survival; and (iii) larval, juvenile, and subadult growth, development, and recruitment (e.g., 13 degrees C to 26 degrees C for spawning habitat and no more than 30 degrees C for juvenile rearing habitat, and 6 milligrams per liter (mg/L) dissolved oxygen or greater for juvenile rearing habitat) (82 FR 39162). The spawning locations for the Chesapeake Bay DPS of Atlantic sturgeon are not well known, but are inferred based on the location of freshwater, hard substrate, water depth, tracking of adults to upriver locations and the behavior of adults at those locations, historical accounts of where the caviar fishery occurred, and capture of young of year (i.e., juvenile less than a year old sturgeon and, in limited cases, capture of larvae and eggs (82 FR 39163)).

State

In addition to federal ESA protections, some species are protected under Maryland state regulations. The level of status for protected species under state regulations are:

Endangered; a species whose continued existence as a viable component of the state's flora or fauna is determined to be in jeopardy. Threatened; a species of flora or fauna which appears likely, within the foreseeable future, to become endangered in the state. In Need of Conservation; an animal species whose population is limited or declining in the state such that it may become threatened in the foreseeable future if current trends or conditions persist (COMAR 08.03.08).

Maryland has developed the 2015-2025 Maryland State Wildlife Action Plan (SWAP) that describes conservation efforts, which identify Species of Greatest Conservation Need. Species of Greatest Conservation Need are those animals, both aquatic and terrestrial, that are at risk or are declining in Maryland. More details can be found in Chapter 3 of the 2015-2025 Maryland State Wildlife Action Plan (http://dnr.maryland.gov/wildlife/Pages/plants_wildlife/SWAP_Submission.aspx).

The fish species below were identified by Maryland as Species of Greatest Conservation Need (Table 9) in the SWAP and use the aquatic habitats in the sanctuary for one or more life stages.

Table 10: Federal and state protected species in MPNMS alternatives area

Federal ESA			Maryland Species of GCN	
Common Name	Scientific Name	Status	Common Name	Scientific Name
Atlantic sturgeon	<i>Acipenser oxyrinchus oxyrinchus</i>	endangered	Hickory shad	<i>Alosa mediocris</i>
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	endangered	American shad	<i>Alosa sapidissima</i>
			White catfish	<i>Ameiurus catus</i>

Hickory shad (*Alosa mediocris*) was once a common species of shad found in Potomac River. They are currently protected in Maryland from recreational and commercial harvest. Adults enter Potomac River to reproduce in freshwater in May and early June usually between dusk and midnight. After reproducing, adults leave the Potomac River and their offspring grow in tidal freshwater streams until they reach adulthood and migrate to the ocean. Hickory shad feed on small fishes, invertebrates, and fish eggs.

American shad (*Alosa sapidissima*) was a very abundant species found in Potomac River since colonial times. They are currently protected in Maryland from recreational and commercial harvest. Adults can live up to 10 years, but are only seasonal visitors to the Potomac River; the majority of their adult life is spent in the ocean swimming in large schools. During the spring, adults enter Potomac River to reproduce in freshwater. Shortly after reproducing they leave the Potomac River and return to the ocean. Their offspring feed on invertebrates throughout summer and then in the fall, they leave the Potomac River to enter the ocean.

White catfish (*Ameiurus catus*) are the only native fork-tailed catfish in the Potomac River. Once common to the Potomac River and all Chesapeake Bay tributaries, their abundance is now eclipsed by non-native, fork-tailed catfish such as channel catfish and blue catfish. White catfish are usually found year-round in fresh or brackish water. Adults live up to 11 years and reproduce in early summer and deposit eggs in submerged woody material or some type of cavity. Eggs and young fish are cared for and guarded by the male. They feed on small fishes and invertebrates.

4.4.3 Birds

The Potomac River shoreline provides important habitat for number of breeding bird species. There are no federally endangered or threatened bird species in this area. Bald eagles (*Haliaeetus leucocephalus*) nest along the shoreline in large pines and other trees extending above the canopy. Osprey (*Pandion haliaetus*) are known to build their nests atop many of the shipwrecks, as well as on platforms and other

structures along the shoreline. Great blue heron (*Ardea herodias*) feed in the mudflats. Several waterfowl species that do not breed in the area, such as the common merganser, bufflehead, and tundra swan, use the area as stopover habitat during migration.

The Maryland and the District of Columbia Breeding Bird Atlas Project - conducted between 2002-2006 in partnership between the USGS, the Patuxent Wildlife Research Center, the DNR, and the Maryland Ornithological Society - involved hundreds of volunteers who conducted surveys throughout Maryland and Washington, D.C. In this effort, data were gathered on over 200 species of birds known to breed in the state. The birds listed in Table 11 were identified through this effort as species of birds known to use the sanctuary and adjacent areas for breeding, or were observed as they passed through. The atlas displays data by species, by block, or by county. The grid used in the atlas is based on maps known as “quadrangles” or “quads” published by the USGS in the 7.5 minute series. There are 239 quads in Maryland and D.C., each named after a major town or geographical feature on the map. If a species was present in a quad that the sanctuary boundary fell within,⁵ then that species was included in Table 11.

The Bird Atlas is divided into three categories of breeding certainty: possible, probable, and confirmed. Observers used these classifications to describe the level of certainty that a species is nesting in each block. Another classification, “observed,” was applied when individuals of a species (male or female) were observed within breeding dates but not in breeding circumstances.

Extensive forested blocks adjacent to Mallows Bay are included in the Nanjemoy Important Bird Area (IBA), designated by Maryland-D.C. Audubon for supporting a rich assemblage of forest interior dwelling birds (FIDS), as well as a number of at-risk species. Twenty of 24 potentially-occurring FID species regularly breed in the IBA. Surveys indicated that three at-risk species, bald eagle, worm-eating-warbler (*Helmitheros vermivorum*), and whip-poor-will (*Antrostomus vociferous*), exceed state IBA population estimate thresholds based on their observed totals. In addition, five more at-risk species that exceeded IBA thresholds breed in upland and wetland areas adjacent to Mallows Bay: red-headed woodpecker (*Melanerpes erythrocephalus*), wood thrush (*Hylocichla mustelina*), prairie warbler (*Setophaga discolor*), prothonotary warbler (*Protonotaria citrea*), and Kentucky warbler (*Geothlypis formosa*). High quality streams draining into the Potomac River support breeding Louisiana waterthrush (*Parkesia motacilla*) and mixed pine-hardwood areas support prairie warbler, summer tanager (*Piranga rubra*), and black-and-white warbler (*Mniotilta varia*). Ravines and forested areas lined with mountain laurel are favorite nesting areas for worm-eating warbler. A number of these species are considered to be “area sensitive” in that they will not breed unless there is sufficient interior forest. These birds and others play many important roles in our forests such as insect control, seed dispersal, and providing food for other predators.

Table 11: Breeding bird species as identified by the 2002-2006 Maryland and District of Columbia Breeding Bird Atlas Project.

OB: observed, no breeding	Eastern meadowlark	CO: confirmed evidence of breeding	
Double-crested cormorant	Eastern towhee	Acadian flycatcher	House sparrow

⁵ U.S. Geological Survey quadrangles relevant to the study area include: Dahlgren, King George, Mathias Point, Nanjemoy, Passapatanzy, Quantico, and Widewater.

Great blue heron	Eastern whip-poor-will	American crow	Killdeer
Royal tern	Field sparrow	American kestrel	Mourning dove
PO: possible breeding evidence	Grasshopper sparrow	Bald eagle	Northern cardinal
Baltimore oriole	Gray catbird	Belted kingfisher	Northern parula
Chuck-will's-widow	Green heron	Blue grosbeak	Osprey
Cooper's hawk	Hooded warbler	Blue-gray gnatcatcher	Ovenbird
Eastern screech owl	Louisiana waterthrush	Brown thrasher	Pine warbler
Kentucky warbler	Indigo bunting	Brown-headed cowbird	Prothonotary warbler
Mallard	Northern flicker	Canada goose	Purple martin
Northern bobwhite	Northern mockingbird	Carolina chickadee	Red-bellied woodpecker
Red shouldered hawk	Northern rough-winged swallow	Carolina wren	Red-eyed vireo
Red tailed hawk	Orchard oriole	Chipping sparrow	Red-headed woodpecker
Song sparrow	Pileated woodpecker	Common grackle	Red-winged blackbird
Yellow warbler	Prairie warbler	Common yellowthroat	Ruby throated hummingbird
PR: probable breeding evidence	Scarlet tanager	Downy woodpecker	Tufted titmouse
American goldfinch	Sedge wren	Eastern bluebird	White-eyed vireo
American redstart	Summer tanager	Eastern kingbird	Wood duck
American robin	Tree swallow	Eastern phoebe	Wood thrush
American woodcock	Turkey vulture	Eastern wood-pewee	Yellow-breasted chat
Barn swallow	Virginia rail	European starling	Yellow-throated warbler
Barred owl	White-breasted nuthatch	Fish crow	
Black vulture	Wild turkey	Great crested flycatcher	
Blue jay	Worm-eating warbler	Great horned owl	
Cedar waxwing	Yellow-billed cuckoo	Hairy woodpecker	
Chimney swift	Yellow-throated vireo	House finch	

4.4.4 Terrestrial species

The following have been identified by the DNR Wildlife and Heritage Service as water-dependent terrestrial species found within or adjacent to the study area.

Mammal

The American mink (*Neovison vison*) is a semi-aquatic species native to Maryland. Mink require a permanent water source within their habitat and are known to live along wetland edges and the shoreline of the Potomac River, especially in areas with dense brush or those with a lot of trees. Mink will occasionally use dens throughout their travels, including those built by muskrats. Mink eat muskrats, mice, rabbits, small rodents, waterfowl, marsh nesting birds, crayfish, aquatic beetles, and fish. Mink can hunt both on land and in water and will climb trees to find prey or will dive underwater to capture food.

Reptiles and Amphibians

The palustrine floodplain habitat (see 4.4.5.2) along this portion of the Potomac is vital to a number of reptiles and amphibians, including the state endangered rainbow snake (*Farancia erythrogramma*) and more common species such as northern watersnake (*Nerodia sipedon*), southern leopard frog (*Lithobates sphenoccephalus*), pickerel frog (*Lithobates palustris*), and painted turtle (*Chrysemys picta*). Many amphibians also spend much of their adult lives in the mixed mesic hardwood forest habitat (see 4.4.5.3)

along the shoreline, including eastern box turtles (*Terrapene carolina carolina*), eastern fence lizard (*Sceloporus undulatus*), five-lined skink (*Plestiodon inexpectatus*), Fowler's toad (*Anaxyrus fowleri*), and eastern American toad (*Anaxyrus americanus*).

The Maryland Amphibian and Reptile Atlas was a five-year project between the Natural History Society of Maryland and Maryland DNR to document the current distributions of Maryland's amphibian and reptile species using a systematic and repeatable approach. Species listed in Table 12 were identified in the relevant USGS quads⁶ during the survey. The Dahlgren and Passapatanzy quads were not surveyed, but similar species may be present in those neighboring quads.

Table 12: Reptile and amphibian species present in USGS quads within and adjacent to sanctuary boundary. Degree of confidence for each species by quad: (C=Confirmed; P=Pending/Under Review; A=Accepted; X=Unconfirmed/Rejected; NR=not reported). Source: Maryland Amphibian and Reptile Atlas 2015.

Species	King George	Mathias Point	Nanjemoy	Quantico	Widewater
Turtle					
Eastern musk turtle	NR	NR	C	NR	C
Eastern mud turtle	C	C	C	NR	C
Eastern box turtle	C	C	C	NR	C
Spotted turtle	NR	C	NR	NR	NR
Painted turtle	C	C	C	C	C
Northern red-bellied cooter	C	C	NR	C	C
Eastern snapping turtle	C	C	C	C	C
Lizard					
Eastern fence lizard	C	NR	C	C	C
Little brown skink	NR	NR	NR	NR	C
Common five-lined skink	C	C	C	NR	C
Snake					
Northern watersnake	NR	C	C	C	C
Queen snake	NR	NR	NR	NR	C
Eastern smooth earthsnake	NR	C	C	X	C
Northern brownsnake	C	C	C	NR	C
Northern red-bellied snake	NR	NR	C	NR	NR
Eastern gartersnake	NR	C	C	NR	NR
Common ribbonsnake	NR	C	C	NR	C
Ring-necked snake	NR	NR	C	C	NR
Eastern worms snake	C	C	C	C	C
Northern rough greensnake	NR	C	C	NR	A
Eastern hog-nosed snake	NR	NR	C	NR	C
Rainbow snake	NR	NR	C	NR	C
Northern black racer	A	C	C	C	C
Eastern ratsnake	C	C	C	NR	C
Eastern kingsnake	C	C	C	NR	C

⁶ U.S. Geological Survey quadrangles relevant to the sanctuary boundary include: Dahlgren, King George, Mathias Point, Nanjemoy, Passapatanzy, Quantico, and Widewater.

Copperhead	NR	C	C	NR	C
Salamander					
Marbled salamander	NR	C	C	C	C
Spotted salamander	C	C	C	C	C
Red-spotted newt	NR	C	C	NR	NR
Eastern redbacked salamander	NR	NR	C	C	NR
Northern red salamander	NR	C	C	NR	NR
Northern two-lined salamander	NR	X	A	NR	NR
Four-toed salamander	NR	NR	C	NR	NR
Frog and Toad					
Eastern spadefoot	C	C	C	NR	C
Eastern American toad	C	C	C	C	C
Fowler's toad	C	C	C	NR	C
Upland chorus frog	NR	X	X	NR	NR
Spring peeper	C	C	C	C	C
Eastern cricket frog	C	C	C	C	C
Green treefrog	C	C	C	C	C
Unknown gray treefrog sp.	NR	C	C	C	C
Cope's gray treefrog	C	C	C	C	C
Wood frog	NR	C	C	X	C
Southern leopard frog	C	C	C	C	C
Pickerel frog	NR	C	C	C	C
Northern green frog	C	C	C	C	C
American bullfrog	C	C	C	A	C

Invertebrates

As a group, Maryland's invertebrates are not nearly as well studied as vertebrates. This also is true at both the regional and national scale due largely to the overwhelming number of invertebrate species, limited number of taxonomic specialists, and the complexities of the ecological communities of which they are an integral part. Because Maryland has marine, estuarine, freshwater, and terrestrial environments, the invertebrate fauna of Maryland are diverse and include many thousands of species representing a wide variety of taxonomic groups, such as flatworms; freshwater mussels and other mollusks; crustaceans; spiders; and numerous insect groups, including dragonflies and damselflies, moths and butterflies, and many more. Fairly well-researched taxa groups include butterflies, dragonflies and damselflies (odonates), and freshwater mussels, a small percentage of the total number.

Several species of aquatic invertebrates are of high economic importance, either as commercially valuable species or because they are pest species. Commercially important species include the blue crab (*Callinectes sapidus*), which are managed by Maryland DNR's Fisheries Service with the goal of attaining healthy, sustainable populations.

Aquatic insects are an extremely diverse group, spanning some 13 orders of insects from springtails (Order Collembola) to caddisflies (Order Trichoptera) and containing thousands of species, some assuredly still undiscovered and unknown to science. They are a dominant part of most freshwater aquatic food webs, play critical roles in nutrient cycling, and serve as excellent indicators of aquatic habitat

condition and biotic integrity. Still, for most aquatic insect groups, their study and identification, especially to species level, require specialized taxonomic skills and training, which can pose formidable challenges to documenting species presence, distribution, ecological requirements, threats, and conservation needs. Certain taxa, however, such as stoneflies (Order Plecoptera), mayflies (Order Ephemeroptera), caddisflies (Order Trichoptera), and especially odonates (dragonflies and damselflies, Order Odonata), are relatively well known and use the habitats within the study area. For example, part of odonates life cycle is completed in the clean waters of flowing streams.

4.4.5 Habitats

4.4.5.1 Tidal river

At the mouth of streams that flow into the Potomac River along the Charles County shoreline, tidal marshes and shrublands have formed where sediment has accreted and is exposed at low tide. The vegetation of the marshes is diverse and dominated by aquatic plants that are emergent at high tide. Closer to the mainstem of the river, the lower elevation zones are dominated by broadleaved emergent plants, including spatterdock (*Nuphar advena*), arrow arum (*Peltandra virginica*), and pickerelweed (*Pontederia cordata*), while higher zones support wild rice (*Zizania* spp.), jewelweed (*Impatiens* spp.), rice cutgrass (*Leersia oryzoides*), and tearthumb (*Polygonum* spp.). Narrow, sandy tidal flats are exposed at low tide along much of the shoreline. Due to periodic high wave energy and the low elevation of the flats, the flats are frequently bare of vegetation. The narrow, sandy flats along the shoreline provide habitat for wildlife species of Greatest Conservation Need, including northern diamond-backed terrapin (*Malaclemys terrapin*), herons, and for common wildlife species, including Canada goose (*Branta canadensis*) and other waterfowl.

A variety of vascular plants that grow entirely underwater, known as SAV, are also prevalent throughout the Potomac River. SAV grow in beds along shallow flats and margins of the main river and tributaries. They form grassy meadows and weed beds that provide food and shelter for juvenile fish, insect larvae, mollusks, plankton, crustaceans, and other invertebrates that become food for fish, waterfowl, turtles, mammals, and larger invertebrates. The Maryland DNR, in partnership with the Virginia Institute of Marine Science, has been surveying SAV in the Chesapeake Bay since 1978. *Hydrilla verticillata* is pervasive throughout the study area, particularly within Mallows Bay. While a nuisance to boaters and recreationalists, hydrilla provides excellent habitat for a number of aquatic species, particularly juvenile finfish. Other SAV found in the study area include: *Myriophyllum spicatum*, *Heteranthera dubia*, *Ceratophyllum demersum*, *Vallisneria americana*, *Najas minor*, and *Najas guadalupensis*.

The open water portion of the tidal Potomac River in this area has an approximate maximum depth of 100 feet, but the average depth is 19 feet (USGS 1984). River flow fluctuates seasonally and year to year. The deep water channels are prime habitat for blue catfish populations to thrive, aiding the booming blue catfish commercial fishery.

The health of the aquatic resources within the entire tidal Potomac River are severely impacted by pollutants, including nitrogen, phosphorus, and sediment. Additional factors impacting the river include land use, increases in impervious surfaces, loss of forest cover, natural factors such as weather and river flow, and other pressures from climate change and the introduction of invasive species.

4.4.5.2 Palustrine

Above tidal influence along the streams that flow into the Potomac, the Coastal Plain Floodplain Forests are temporarily to seasonally inundated. Red maple (*Acer rubrum*) and green ash (*Fraxinus pennsylvanica*) are abundant in the seasonally flooded areas, with sweet gum (*Liquidambar styraciflua*) and tulip tree (*Liriodendron*) more common in the temporarily inundated canopy, and spicebush (*Lindera benzoin*) abundant in the understory. Beaver are abundant in this portion of Charles County, and create diverse habitats with the floodplain forests. Nontidal emergent wetlands behind beaver dams often support floating aquatic plants, including spatterdock (*Nuphar advena*), white water lily (*Nymphaea odorata*), duckweed (*Lemna* spp.), and pondweed (*Potamogeton* spp.). Pickerelweed (*Pontederia cordata*), rice cutgrass (*Leersia oryzoides*), sedges (*Cyperaceae* spp.), and cattail (*Typha* spp.) border areas of open water behind beaver dams. Common buttonbush (*Cephalanthus occidentalis*), alder, and swamp loosestrife (*Decodon verticillatus*) form shrub thickets along the perimeter of the emergent marsh.

4.4.5.3 Terrestrial

Mixed Mesic Hardwood Forest dominates the uplands along the Potomac. Oaks, including white oak (*Quercus alba*) and northern red oak (*Quercus rubra*), tulip tree (*Liriodendron tulipifera*), mockernut (*Carya tomentosa*), pignut (*Carya glabra*), and hickories are common in the overstory, with flowering dogwood (*Cornus florida*), American holly (*Ilex opaca* var. *opaca*), and pawpaw (*Asimina triloba*) in the understory. Although Mesic Mixed Hardwood Forests are widespread throughout Charles County, their size and condition have been much reduced by logging, agriculture, and development.

On drier uplands along the river bluffs and terraces, Coastal Plain Oak-Pine Forest is common. The sandy soils underlying these areas are acidic and low in nutrients. Southern red oak (*Quercus falcata*) and chestnut oak (*Quercus montana*) are common, with Virginia pine (*Pinus virginiana*) and loblolly pine (*Pinus taeda*). The shrub layer is dominated by heaths such as huckleberries (*Gaylussacia* spp.), blueberries (*Vaccinium* spp.), and mountain laurel (*Kalmia latifolia*). Where shell material is exposed by erosion, the soils are much less acidic, and Eastern redbud (*Cercis canadensis*) and white ash (*Fraxinus americana*) are more common.

The extensive contiguous forest along this section of the Potomac is recognized as the Nanjemoy Important Bird Area by the National Audubon Society due to the extraordinary number of FIDS documented breeding here and the presence of significant breeding populations of six birds whose survival is at risk nationwide. During a 2009 Bird Blitz survey coordinated by the National Audubon Society, 20 of the 24 potentially occurring FID species were recorded breeding in this area. Particularly at-risk species documented in this Important Bird Area include whip-poor-will (*Antrostomus vociferous*), worm-eating warbler (*Helmitheros vermivorum*), red-headed woodpecker (*Melanerpes erythrocephalus*), wood thrush (*Hylocichla mustelina*), prairie warbler (*Setophaga discolor*), prothonotary warbler (*Protonotaria citrea*), and Kentucky warbler (*Geothlypis formosa*). Most FIDS are neotropical migrants or birds that travel long distances to breed in North America and winter in Central and South America. These species include some of our most brilliantly colored songbirds such as the scarlet tanager (*Piranga olivacea*) and prothonotary warbler. These birds and others play many important roles in the ecosystem such as insect control, seed dispersal and providing food to other predators. The declines in FIDS have been attributed largely to the loss and fragmentation of forests in the eastern United States by urbanization, agriculture, and some forest management practices.

4.4.5.4 Essential Fish Habitat (EFH)

Essential Fish Habitat

In the Potomac River there are two fish species, summer flounder (*Paralichthys dentatus*) and bluefish (*Pomatomus saltatrix*), that have essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The MSA was originally passed by Congress in 1976 and was updated in 1996 and 2006. Section 302 of the MSA created eight regional fishery management councils to develop fishery management plans to regulate fisheries in an effort to prevent overfishing. Each council prepares fishery management plans for each fishery under its jurisdiction and submits these plans to the Secretary of Commerce for final approval.

The MSA provides regional fishery management councils and NOAA authority to establish EFH and habitat areas of particular concern (HAPCs). The MSA defines as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (MSA Act 3(10)). The EFH final rule (50 CFR Part 600) elaborates that the words “essential” and “necessary” mean identification of sufficient EFH to “support a population adequate to maintain a sustainable fishery and the managed species’ contributions to a healthy ecosystem.”

Summer flounder (*Paralichthys dentatus*) is a popular commercial and recreational fish species. Because of the geographic range and movement of the species the Mid-Atlantic Fishery Management Council manages summer flounder cooperatively with the Atlantic States Marine Fisheries Commission under a fishery management plan that includes black sea bass and scup. In 2012, the summer flounder fishery was declared rebuilt. The councils are currently developing an amendment to update the fishery management plan to address changing conditions in the fishery. Currently, the Potomac River is included in the summer flounder EFH and native species of submerged aquatic vegetation such as macroalgae, seagrasses, and freshwater and tidal macrophytes are considered HAPC.

Bluefish (*Pomatomus saltatrix*) support commercial and recreational fishing and are found along the U.S. east coast from Maine to Florida. Mid-Atlantic Fishery Management Council manages bluefish and according to the Council’s 2013 assessment it is not considered overfished and overfishing is not taking place. The Potomac River is included in the bluefish EFH and there are no designated HAPCs.

4.5 SOCIOECONOMIC RESOURCES

Charles County is home to a wealth of natural, cultural, and historic resources, which offer numerous opportunities for recreation and tourism and support the local and regional economy. The county’s rich heritage, many of its historic sites, towns, and landmarks, as well as many of its outdoor recreational opportunities, are closely tied to its strategic location on the Potomac River, beginning just 18 miles south of Washington, D.C. and extending approximately 30 miles north of the river’s confluence with the Chesapeake Bay.

From the first American Indian inhabitants who relied on the river for fish, agricultural production, and transportation, the Potomac River has helped shape the history of human settlement and economic development in Charles County for centuries. That history is reflected today in some of the county's top heritage tourism attractions, recreational facilities, and economic assets including:

- Thomas Stone National Historic Site, home of a signer of the Declaration of Independence;
- Port Tobacco – one of the oldest towns in Maryland and on the East Coast of the U.S. and its historic courthouse and one-room schoolhouse;
- General Smallwood State Park, which contains the home of the revolutionary war hero General William Smallwood; and
- Indian Head, founded in 1890 when the U.S. Navy established a proving ground on Cornwallis Neck and, today, is the county's largest employer.

This maritime cultural heritage is also reflected in the vast collection of historic shipwrecks within the Potomac River, the archaeological and cultural remains of successive regimes of the Potomac River fisheries industry, and in the diverse variety of water-based recreational activities that occur today along the Potomac's extensive shoreline, inlets, beaches, and parks and recreation facilities.

4.5.1 Water access and existing facilities

Along the entirety of Charles County's nearly 300 mile shoreline of the Potomac River and its tributaries, there are six county parks (Marshall Hall, Ruth B. Swann, Mallows Bay, Port Tobacco River Park, Friendship Farm Park, and Southern Park, see Figure 11), two rail-trail parks (Indian Head Rail Trail and Pope's Creek), and four designated natural heritage areas (Allen's Fresh, Chicamuxen Creek, Popes Creek, and Upper Nanjemoy Creek) serving approximately 190,000 users each year. There are also four state parks (Smallwood, Chapman, and Chapel Point state parks, and Zekiah Swamp Natural Environment Area), the 540-acre Douglas Point Special Recreation Management Area (SRMA) co-managed by the Bureau of Land Management (BLM) and DNR, six wildlife management areas (Cedar Point, Nanjemoy, Purse, Riverside, Chicamuxen, Mattawoman), and two natural resource management areas (Indian Creek and Maxwell Hall), and Doncaster Demonstration Forest covering a combined total area of more than 20,000 acres. These parks and wildlife areas offer residents and visitors opportunities to experience some of southern Maryland's most scenic and undeveloped natural areas and engage in a wide variety of outdoor recreational activities including hunting, fishing, bicycling, hiking, boating, fossil collecting, and bird watching.

On the Virginia side of the Potomac River, there are three national wildlife refuges (Mason Neck, Occoquan, and Featherstone), four state parks (Mason Neck, Leesylvania, Widewater, Caledon), the Crow's Nest Natural Area Preserve, Pohick Bay Regional Park, and several local parks and private campgrounds, including Aquia Landing Park, Barnesfield Park, and Monroe Bay Campgrounds, which offer a variety of river activities and help conserve the Potomac's historic landscape and viewshed. Virginia established a new canoe/kayak-in campsite at Caledon State Park in 2014 and is in the process of developing a new 1,100 acre state park at Widewater along the Potomac, with trails, boat launches, a fishing pier, and campsites, both of which will offer more recreational opportunities, linkages, and fill public access gaps along the river for visitors, outdoor adventurers, and enthusiasts.

Three national trails – the Captain John Smith Chesapeake National Historic Trail, the Star Spangled Banner National Historic Trail, and the Potomac Heritage National Scenic Trail – run through this entire section of the Potomac River. They provide opportunities for residents and visitors alike to learn about important chapters in American history and the development of the United States. Piscataway Park at the north end of Charles County, administered by the National Park Service and named after the Piscataway Indians still present in the area, offers visitors a public fishing pier, paddling access, and two boardwalks over freshwater tidal wetlands, a variety of nature trails, meadows, and woodland areas.

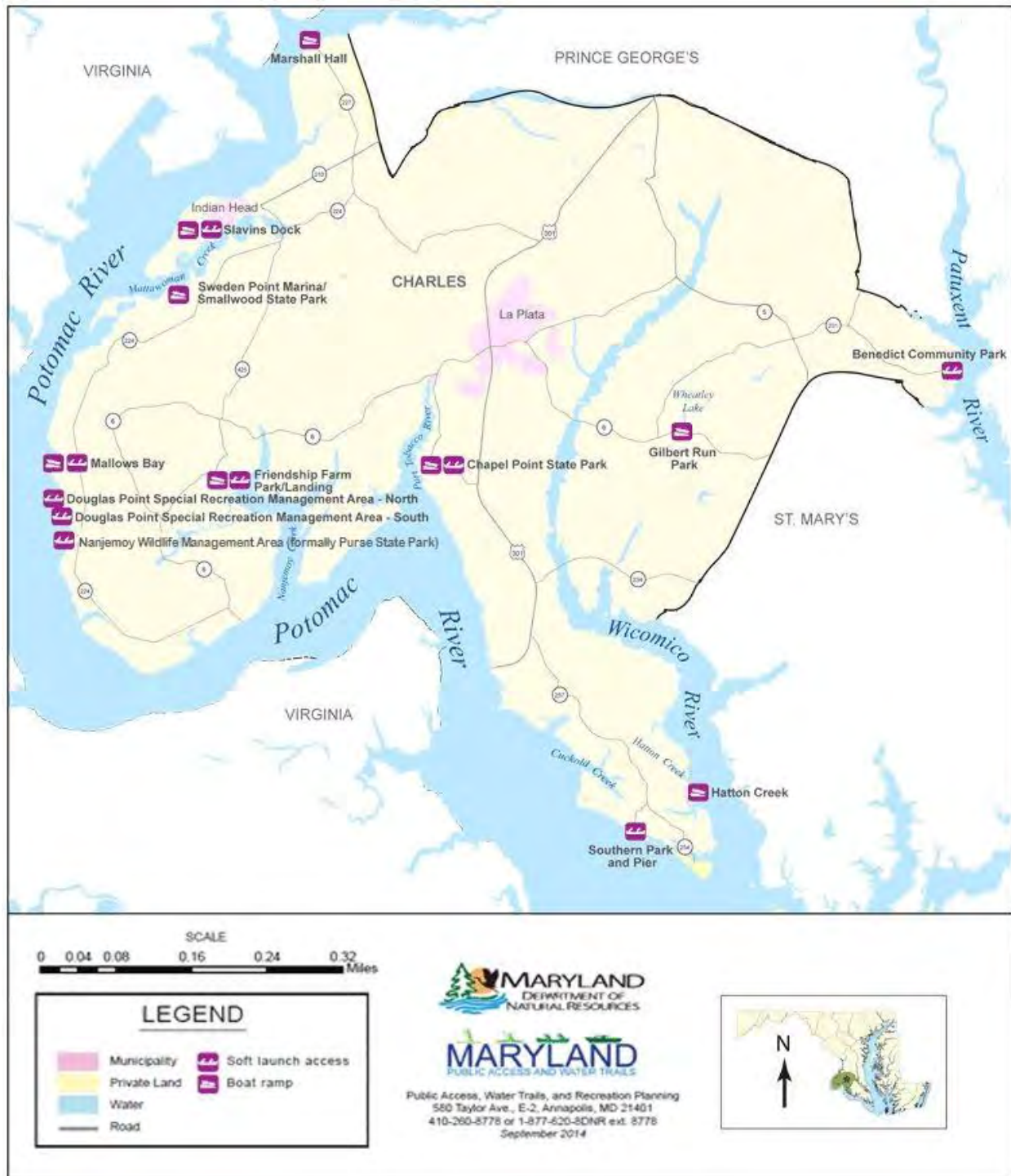


Figure 11: 2018 Maryland public access locations. Source: Maryland Department of Natural Resources

4.5.2 Recreational uses

4.5.2.1 Recreational fishing

Recreational fishing is one of the most popular outdoor activities in Maryland and along this portion of the Potomac River. According to an economics and sociocultural status and trends study by the NMFS released in 2014, 672,000 anglers fished Maryland waters in 2012 and contributed more than \$715 million to the state's economy. The tidal Potomac River provides important spawning, nursery, or feeding habitat for a myriad of fish including striped bass, drum, largemouth bass, perch, catfish, and snakeheads, and offers outstanding recreational fishing. It is the site of national fishing tournaments, with over 50 organized largemouth bass tournaments targeting the Potomac River for competitive sport fishing yearly. In June 2015, the Walmart FLW National Fishing Tournament brought approximately \$1.5 million in economic activity to Charles County and was filmed by NBC Sports Outdoors.

In June 2015, the Maryland DNR hosted a workshop⁷ to gather data on where, when, and how people used the Potomac River. As a result of this workshop, it was found that recreational fishing from both motorized and non-motorized vessels occurs throughout the entire Potomac River year round. Fishing location is largely dependent on target species and season, but the majority of recreational fishing activity occurs in the bays and tributaries. Gear type used is also dependent on target species. The workshop also revealed an increase in fishing presence on the Potomac River in recent years with anglers present 24 hours a day seven days a week, as long as the waters are not frozen over.

In Charles County, shoreline fishing from piers is available at Smallwood State Park, Friendship Farm Park, and Southern Park. Public access to shoreline fishing is also available at the Douglas Point Management Area and Chapel Point State Park, but shoreline fishing is known to occur along the entire river on both public and private lands.

Management authority for the mainstem tidal Potomac River below Washington D.C. for most species belongs to, and will remain with, the PRFC, a Maryland and Virginia bi-state Commission. They are charged with collecting commercial landings and other similar data, and maintain a system of day markers at the mouths of the various tributaries. Tributaries and some reaches of the nearshore area are under Maryland DNR jurisdiction. As such, the sanctuary has no plan to regulate, alter, or negatively impact fishing. Instead, the sanctuary believes user education will serve as an effective tool to mitigate or eliminate further damage to sanctuary resources. The sanctuary will work with the resource management agencies and fishing communities to better map, document, and communicate the locations of sanctuary resources relative to fishing activities.

4.5.2.2 Hunting and trapping

Hunting and trapping is managed and permitted by the Maryland DNR Wildlife and Heritage Service in accordance with open seasons, bag limits, and shooting hours on several state lands in the area, including Cedar Point Wildlife Management Area (WMA), Cedarville State Forest (SF), Chapel Point State Park

⁷ On June 10, 2015, the Maryland Department of Natural Resources hosted a mapping workshop at the College of Southern Maryland in La Plata, Maryland. The purpose of the workshop was to collect spatial data on recreational and commercial activities and cultural assets in the Potomac River. The Maryland DNR captured the data in a Geographic Information System and created maps depicting general and dominant use areas for 23 different uses. The maps can be viewed on the Maryland Coastal Atlas under "Recreational Uses" at <http://gisapps.dnr.state.md.us/coastalatlus/WAB/index.html>.

(SP), Chapman SP, Chicamuxen WMA, Indian Creek Natural Resources Management Area (NRMA), Myrtle Grove WMA, Nanjemoy WMA, Riverside WMA, Nanjemoy Creek WMA, and Zekiah Swamp NEA. The June 2015 recreational mapping workshop also revealed dominant waterfowl hunting presence from November to February from the shoreline to 200 yards into the river.

Nanjemoy WMA and the jointly managed Douglas Point SRMA provide hunting for white-tailed deer, gray squirrels and other small game, wild turkey, and waterfowl. Waterfowl blind sites are established just north and south of the Wilson's Landing boat ramp, with a disability accessible waterfowl blind site established just south of Douglas Point SRMA. The shorelines along Liverpool Point and Douglas Point are Waterfowl Hunting Zones and considered prime waterfowl hunting opportunities.

4.5.2.3 Fishing and hunting guide services

Due to the proximity to large population centers, availability of access points, and the presence of targeted species, there are a number of guide services for both charter fishing and waterfowl hunting that operate in the tidal Potomac River. Boats launch from both the Maryland and Virginia sides of the Potomac, depending on where certain species are most likely to be present at certain times of year.

4.5.2.4 Fossil collecting

Fossil collection has become a popular activity at the Purse Area of Nanjemoy WMA and other locations on the Potomac River. Collection of fossils on federal and state lands is only allowed below the mean high water mark on the Potomac River. Only exposed fossils that are on the surface of the beach or the water may be collected; digging in the cliffs or in the water is prohibited. All fossil collection activities elsewhere on federal and state lands are prohibited, as is collecting on private property without the owner's clear consent. In Maryland, private property starts at the high tide line, and in Virginia it starts at the low tide line. Scientific collection may be permitted based on site-specific analysis for qualified research or educational institutions.

4.5.2.5 Boating and paddling

Recreational boating is a major activity on the Potomac River. Maryland currently has over 200,000 registered boats, and it has been estimated that Maryland has over 26,000 transient recreational vessels that use Maryland's waterways on an annual basis. Virginia has 246,000 active boat registrations. Boating activities on the Chesapeake Bay include the use of power, sail, and non-motorized boats (e.g., canoes, kayaks).

According to a 2005 recreational boating and infrastructure study prepared for the Maryland DNR, the majority of recreational boats are trailered, requiring access to the river via designated boat launch areas. The past decade has also witnessed a dramatic increase in the number of non-powered boats, including canoes, kayaks, and stand up paddleboards that can be launched via docks or soft launch areas. Along the Potomac River and its tributaries, there are six public boat ramp sites (Marshall Hall, Slavens Dock, Friendship Farm Park, Mallows Bay, Indian Head, Smallwood SP), and six private boat ramps/marinas are available to the public (Aqualand, Captain John's Marina, Port Tobacco Marina, Shymansky's Marina, Skuttlebutt Marina, and Goosebay Marina). On the Virginia side of the river, there are approximately 12 marinas or yacht clubs, including Stepp's Harbor View, Waugh Point, Aquia Bay, Hope Springs, and Occoquan, which offer a wide range of water access, boating services, and marine supplies.

In partnership with the Maryland DNR, and to accommodate the rapidly growing number of visitors and residents engaged in paddle sports, Charles County has developed a water-trail map, highlighting four distinct paddling routes along portions of the Potomac River and its tributaries: Mattawoman Creek, Malloys Bay, Nanjemoy Creek, and Port Tobacco. These water trails range from short one to two hour trips to all day excursions, and offer complementary opportunities for fishing, bird and wildlife watching, and exploring the shipwrecks and other historic resources along the lower Potomac and its tributaries. They are part of the larger planned Lower Potomac River Water Trail, which runs from Washington, D.C. to its confluence with the Chesapeake Bay.

4.5.2.6 Birding and wildlife viewing

Bird watching and wildlife viewing are said to be among the fastest growing outdoor activities in the United States and, with its hundreds of miles of relatively undeveloped shoreline, tidal marshes, near shore areas, and forests, this portion of the Potomac River offers extraordinary opportunities to see more than 100 species of native or migratory birds and other wildlife. For bird watchers, the area along the Potomac River is home to the second largest nesting bald eagle population in Maryland, one of the highest populations of breeding red-headed woodpeckers in Maryland, large populations of osprey, and waterbirds, such as great blue heron, egrets, and terns. Other wildlife species abundant in this area include beaver, otter, white-tailed deer, wild turkeys, and migrating and wintering waterfowl. Reptiles and amphibians in the area include eastern fence lizard (*Sceloporus undulatus*) and a variety of frogs, salamanders, turtles, and snakes. Visitors most often visit state and county parks, wildlife management areas, and shallow creeks to view wildlife.

4.5.3 Commercial uses

4.5.3.1 Commercial fishing

Fishing in the Potomac River mainstem is, and will continue to be, managed and regulated by the Potomac River Fisheries Commission. Fishing in the Potomac River tributaries on the Maryland side of the river is, and will continue to be, managed and regulated by the Maryland Department of Natural Resources. In 2015, over 1,100,000 pounds of blue catfish and over 600,000 pounds of striped bass were harvested in the Potomac River mainstem. That same year, an additional 134,000 pounds of catfish and 12,000 pounds of white perch were commercially harvested from Maryland tributaries of the Potomac River. In addition, northern snakehead is an invasive species that is increasingly sought for sport and food as a means of control. In 2015, over 4,000 pounds of snakehead were commercially harvested, with a single snakehead tournament reeling in 1,871 pounds.

In dry years, higher salinities see significant commercial catches of blue crabs. In 2016 (final data pending), the section of the Potomac adjacent to Malloys Bay was highly productive for commercial crabbers. The area of the river near Malloys Bay is the second most valuable spawning area and nursery for striped bass on the Atlantic coast. The same area is a valuable nursery area for American shad, river herring, and other species.

4.5.3.2 Shipping

Domestic shipping occurs on the Potomac River from the mouth of the river to Giesboro Point at Washington, D.C. The most recent shipping data from the Army Corps of Engineers 2013 Waterborne Commerce of the United States report shows approximately 1,092,337 short tons of cargo traveling through this area. The majority of the cargo at 760,000 short tons includes crude materials (i.e. gravel, sand, stone, and soil). Approximately 200,000 short tons of petroleum products and 124,000 short tons of farm products are also shipped up and down the Potomac River every year. The controlling depth at the Maryland Point Bar is 19.5 feet and the Liverpool Point bar is 21.0 feet. The channel between Sandy Point and Quantico measures 22.6 feet.

4.5.4 Tourism

Historically, Charles County has been primarily a rural community whose economy was based largely on agriculture. In recent decades, however, the county has experienced dramatic growth and a related transformation in its economy. Tourism and recreation are becoming an increasingly important part of the county and state's economic development strategies.

In 2003, Charles County, along with its two neighbors, St. Mary's and Calvert counties, was designated as a Southern Maryland Heritage Area (SMHA), one of Maryland's 13 state certified areas established to enhance the economic activity of all of southern Maryland through combining quality heritage tourism and small business development with preservation, cultural, and natural resource conservation and education. Both the Charles County Office of Tourism and the SMHA develop visitor experiences and conduct marketing activities in alignment with the goals and objectives of the Maryland Office of Tourism Development (MOTD), the state's official destination marketing organization. SMHA's management plan specifically calls out nature tourism as a promising growth area and a theme supported by residents. About 25 projects in the management plan's project list are nature and eco-tourism related. In addition, the MOTD's annual marketing plan specifically cites outdoor recreation as a high priority initiative, as water-based experiences continue to be one of the top travel motivators to the state. The varied topography and proximity to water make Charles County a natural destination.

Leisure and hospitality is now Charles County's second largest private employment sector. There are 20 hotels/motels, three bed and breakfasts, three campgrounds, and a broad variety of restaurants, fast food, and take-outs able to accommodate a large number of new visitors. According to MOTD data, in 2013 Charles County generated \$184 million in tourism industry sales, \$47.2 million in tax receipts, and supported 3,101 hospitality jobs. Still, a 2012 tourism destination plan study prepared for the Charles County Office of Tourism found that there are great opportunities to increase tourism to Charles County by, among other things, better marketing and promotion of its water assets, historic sites, and outdoor recreational facilities including the Ghost Fleet of Mallows Bay.

Since 1970, Charles County's population has grown by nearly 100,000 people from 47,678 to 146,551 in the 2010 decennial census. Despite this growth rate, the county's Potomac River shoreline and landscape remains relatively undeveloped and is a strong attraction for residents and tourists alike, who come for the area's hunting, fishing, boating, and scenic beauty, and increasingly to visit the many shipwrecks visible at low-tide.

Across the river, neighboring Stafford, Prince William, and King George counties in Virginia have experienced similar population and development trends. Their shorelines are also relatively

undeveloped and offer numerous opportunities for outdoor recreation and tourism associated with the Potomac River's rich maritime history and water resources. All three counties and the commonwealth of Virginia actively promote their historic sites, landmarks, and outdoor recreation facilities along the river.

A 2009 study conducted by Douglas Lipton, a Marine Economic Specialist at the University of Maryland Sea Grant Extension Program, found that each registered boat contributed on average \$9,230 per year in economic activity and approximately every six boats registered in Maryland lead to more than one full time job in the state's economy. Boaters traveling from neighboring states are believed to substantially increase the numbers of those recreating on Maryland waters and those boaters also contribute to the economy through gas sales, food, equipment, and other boating related purchases.

4.5.5 Local economy

This section discusses the population of the three proposed action alternatives (B, C, and D), selected demographics, and the composition of the local economies.

Economic study area

An economic study area for each proposed alternative (not including Alternative A, the no action alternative) was identified. The study area is based upon where the primary social and economic impacts are anticipated to occur from the use of MPNMS maritime cultural heritage and natural resources and the secondary counties. Secondary counties account for the multiplier impacts of spending and are identified by reviewing the Census of Inter-County Commuters (U.S. Census Bureau). Counties are included if there are roughly 5,000 individuals who live in a county adjacent to the sanctuary, but work in a different county, or who work in an adjacent county, but live in a different county. The next three figures (figures 12, 13, and 14) show the study area counties for each proposed alternative.

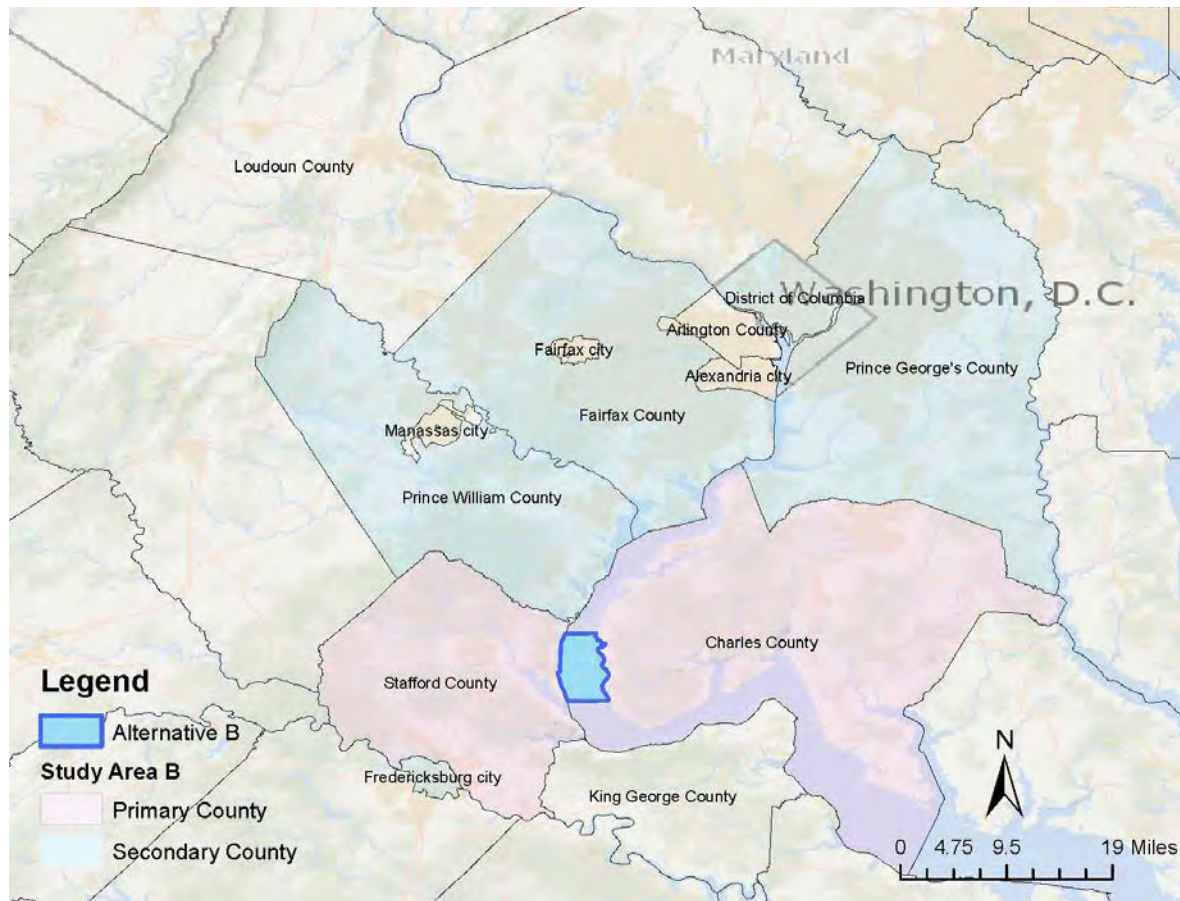


Figure 12: Alternative B economic study area

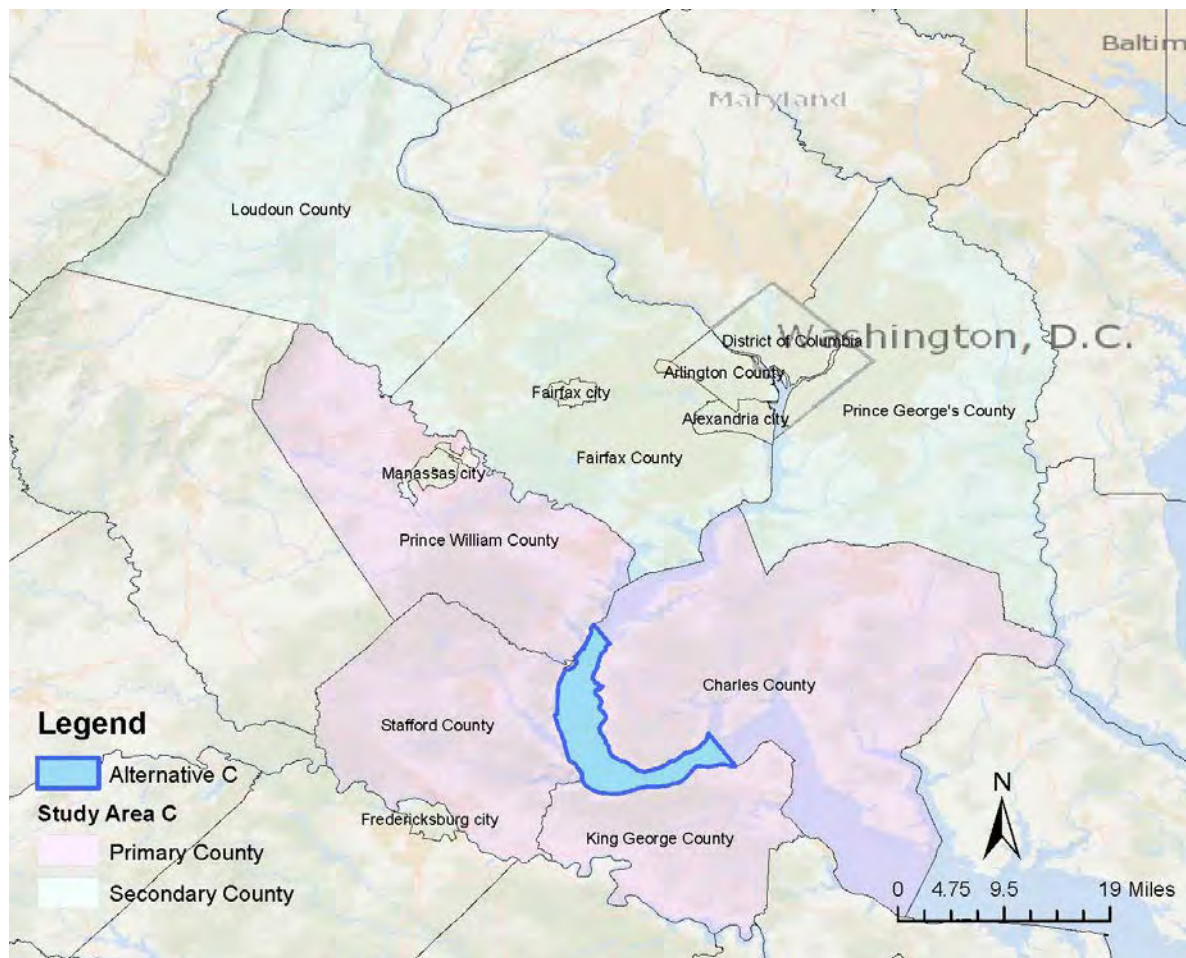


Figure 13: Alternative C economic study area

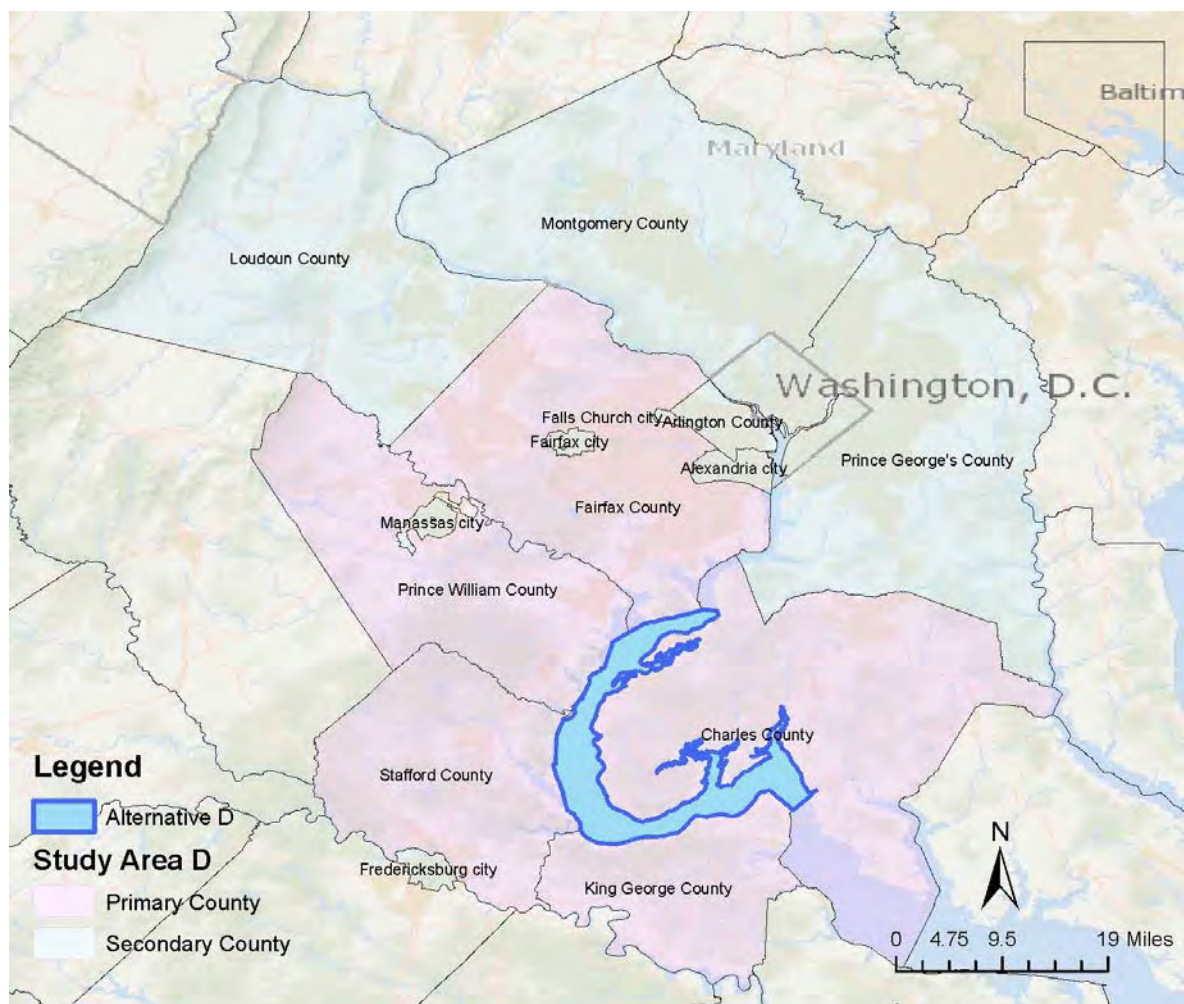


Figure 14: Alternative D economic study area

Population and demographics

Population estimates, population change, and population density for the study areas are presented in Table 13 below. The most up to date data was used in the analysis. The three action alternatives (B, C, and D) have population changes that are higher than the national average, Maryland, and Virginia. Additionally, the population densities are higher in the three study areas when compared to Maryland, Virginia, and the United States (U.S.). This is not surprising, as the area around the proposed sanctuary is composed of many cities including Washington, D.C.

Table 13: Selected socioeconomic measures of the study areas, Maryland, Virginia, and the U.S.

	2014 Population	Population Change 2010-2014	2014 Population Density ¹
Alternative B	3,376,608	6.9%	1,390
Alternative C	4,170,639	8.0%	1,317
Alternative D	5,188,800	7.6%	1,419

Maryland	5,887,776	3.4%	607
Virginia	8,185,131	4.4%	207
United States	314,107,084	3.3%	89

1. Number of people per square mile

Sources: U.S. Department of Commerce, Bureau of the Census, and the Bureau of Economic Analysis, Regional Economic Information System.

The next three tables (tables 14, 15, and 16) present information on the demographics that compose the study areas of the three alternatives. Gender, age, race, and ethnicity are presented for review. There are no statistically significant differences for gender in the study areas versus Maryland, Virginia, or the U.S. For age, there is a lower proportion of those ages 65 and over in the study areas than Maryland, Virginia, or the U.S. All three study areas have a higher proportion of black, Asian, and other populations than Maryland, Virginia, or the U.S. The study areas also have a higher proportion of Hispanic/Latinos than Maryland and Virginia.

Table 14: Percent gender distribution of the study areas, Maryland, Virginia, and the U.S.

	Male	Female
Alternative B	48.7	51.3
Alternative C	48.9	51.1
Alternative D	48.7	51.3
Maryland	48.4	51.6
Virginia	49.1	50.9
United States	49.2	50.8

Table 15: Percent age distribution of the study areas, Maryland, Virginia, and the U.S.

	Under 5	5-19	20-34	35-44	45-54	55-64	65-74	75 and Older
Alternative B	7	19.4	23.1	14.5	14.7	11.4	6.2	7.3
Alternative C	7	19.1	23.5	15.0	14.6	11.1	6.0	7.1
Alternative D	7	19.2	22.7	14.8	14.7	11.4	6.2	7.5
Maryland	6	19.4	20.4	13.2	15.2	12.5	7.3	9.1
Virginia	6	19.4	21.1	13.4	14.6	12.3	7.5	9.1
United States	6	20.0	20.6	13.0	14.1	12.3	7.6	9.5

Table 16: Percent race distribution of the study areas, Maryland, Virginia, and the U.S.

	White	Black	Asian	Other	Hispanic/Latino
Alternative B	47.5	34.4	9.0	5.1	14.7
Alternative C	51.6	29.9	9.4	5.0	14.8
Alternative D	52.5	27.4	10.4	5.5	15.4
Maryland	58.1	29.5	5.9	3.4	8.8
Virginia	69.3	19.3	5.8	2.2	8.4
United States	73.8	12.6	5.0	4.7	16.9

Income and Employment

The 2015 per capita income was higher and a lower rate of poverty for the three action alternatives (B, C, and D) relative to the U.S., Maryland, and Virginia (see Table 17). In addition, there was a lower rate of unemployment in the three alternatives than the U.S. and Maryland. So the study area alternatives are all more prosperous economies than in Maryland, Virginia, or the U.S.

Table 17: Income and employment

	2015 Per Capita Income (\$)	2014 Persons Below Poverty (%)	Labor Force	Unemployed	Unemployment Rate (%)
Alternative B	59,609	9.4	1,892,762	92,301	4.9
Alternative C	61,962	8.9	2,375,313	108,420	4.6
Alternative D	64,124	8.5	2,932,397	130,434	4.4
Maryland	50,345	10.0	3,151,932	163,827	5.2
Virginia	54,176	11.5	4,240,476	188,563	4.4
United States	46,049	15.6	158,390,332	8,439,390	5.3

The next table (Table 18) shows various sectors of the economy and the percentage of employment within that sector. The largest sector of employment across all three alternatives is the government and government enterprises. Given MPNMS proximity to Washington D.C., it is not surprising that the government makes up such a large share of overall employment. Other notable sectors of employment in the three alternatives, where the proportion is higher than Maryland, Virginia, or the U.S., include educational services and professional, scientific, and technical services. A lower proportion of employment than Maryland, Virginia, or the U.S. is in health care and social assistance and retail trade. For more detail, see Schwarzmans & Leeworthy, 2016.

Table 18: Economic sectors and percentage of employment

	Alternative B	Alternative C	Alternative D	Maryland	Virginia	U.S.
Government and government enterprises	20.8	20.5	19.4	12.9	16.1	17.5
Other services, except public administration	7.2	7.2	7.2	5.9	6.1	6.1
Accommodation and food services	6.2	6.2	6.3	6.3	6.5	5.8
Arts, entertainment, and recreation	1.8	1.8	1.9	2.2	2.5	2.0
Health care and social assistance	7.8	7.4	8.1	11.2	12.0	9.4
Educational services	14.8	15.3	15.2	6.9	9.8	10.5
Administrative and waste management services	6.2	6.2	6.3	6.3	6.5	5.8
Management of companies and enterprises	1.0	1.0	1.0	1.3	0.8	1.6
Professional, scientific, and technical services	14.8	15.3	15.2	6.9	9.8	10.5
Real estate and rental and leasing	4.3	4.3	4.6	4.4	4.7	4.3
Finance and insurance	3.3	3.3	3.7	5.3	4.6	4.3
Information services	2.3	2.4	2.4	1.8	1.5	1.7
Transportation and warehousing	1.7	2.1	2.0	3.4	2.9	3.0
Retail trade	7.7	7.6	7.7	10.1	9.8	10.0
Manufacturing	0.9	1.0	1.2	7.0	3.2	5.0
Construction	4.2	4.2	4.5	5.2	6.3	5.5
Trade, transport, and utilities	0.9	1.0	1.1	3.8	3.0	2.7
Mining	0.1	0.1	0.1	0.9	0.1	0.3
Forestry, fishing, and related activities	0.02	0.02	0.03	0.5	0.2	0.3
Farm earnings	0.1	0.1	0.1	1.4	0.5	1.1

4.5.6. Passive economic use

Many people place (or identify) economic value (willingness to pay) on natural and cultural resources to ensure that they are protected in a certain condition. Passive economic value is a term currently used by economists to describe this source of value. In the past, it was more commonly referred to as non-use value and was described as being motivated by desires to protect resources for future generations

(bequeathal value) or to simply know that the resources would be protected in a certain condition in the future (existence value). The reason for the change in terminology is that people must know about the current conditions of the resources to place a value on them. People learn about the conditions of resources and the threats against their future conditions through various media sources (e.g., newspapers, magazines, television, radio, books, and the internet).

While there are no existing studies on the passive economic value of resources within MPNMS boundaries, there was clear indication in the original nomination and during the public scoping process that the public places a high value on the existence of these maritime cultural heritage resources.

4.6 DEPARTMENT OF DEFENSE FACILITIES

A number of DoD installations are located along the Potomac River or in the vicinity of the proposed MPNMS (see Figure 15). These facilities include:

- MCB Quantico, located across the Potomac River in Virginia northwest of Mallows Bay;
- The U.S. Army Garrison Adelphi Laboratory Center Blossom Point Research Facility, which is also home to the Naval Research Laboratory – Blossom Point, located in Maryland south of Mallows Bay at the tip of the small peninsula formed by Nanjemoy Creek and the Port Tobacco River;
- Naval Support Facility (NSF) Indian Head, and the associated Stump Neck Annex, located in Maryland north of Mallows Bay at Cornwallis Neck; and
- NSF Dahlgren located in Virginia south of Mallows Bay.

The actions or activities that may be proposed in or arise from a national marine sanctuary designation may overlap or coincide with activities or operations occurring on or around DoD installations (see Appendix G). The following paragraphs provide short descriptions of each installation and briefly characterize the activities at each.

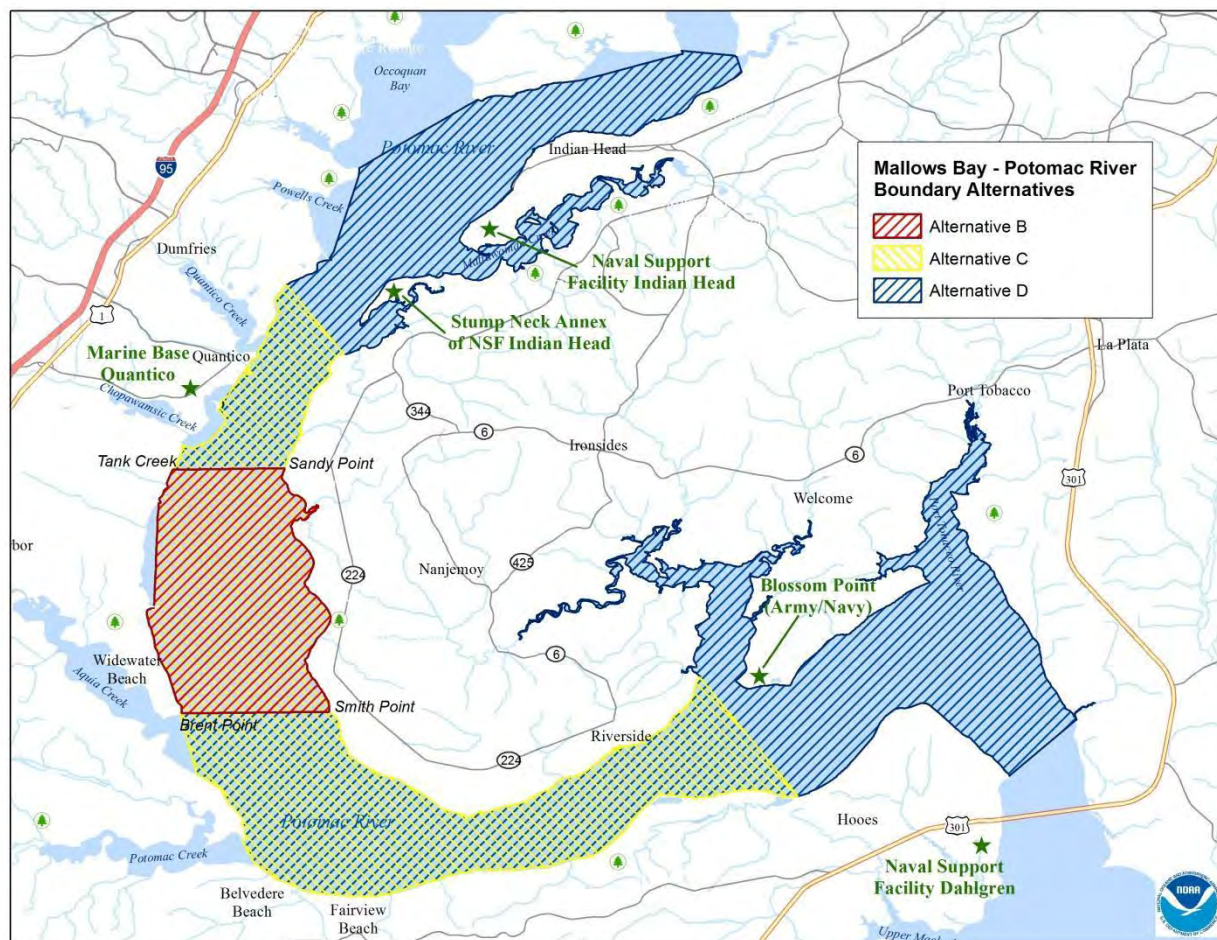


Figure 15: Map of proposed alternatives and DOD installations

4.6.1 Marine Corps Base Quantico

MCB Quantico, known as the “Crossroads of the Marine Corps,” is a major Marine Corps training base occupying about 59,000 acres in Prince William, Stafford, and Fauquier Counties, Virginia about 2 miles northwest of Malloys Bay. The base consists of two major areas on either side of Interstate 95-Mainside, east of the interstate, and Westside, west of the interstate. Mainside is home to numerous administrative support functions, some training functions, and Marine Corps Air Facility (MCAF) Quantico. Westside is used primarily for military training. Largely undeveloped, it consists mostly of training areas and ranges used for a wide array of training activities, including small arms and artillery training, demolition training, and air-to-ground training.

Quantico is home for the Military Department Investigative Agencies and Federal Bureau of Investigation (FBI) Academy, the main training center for the FBI. It also houses the principal training facility of the Drug Enforcement Administration.

As noted in Figure 5, a restricted area extends offshore into the Potomac River from the MCAF at MCB Quantico. The restricted area addresses current security needs at MCB Quantico, including the protection of military assets at MCAF. The restricted area also protects public health by preventing vessels from

disturbing an environmental remediation area located to the northeast of the MCAF. All persons, vessels, or other craft are prohibited from entering, transiting, drifting, dredging, or anchoring within the restricted area without the permission of the commander, MCB Quantico, or his/her designated representatives. The restriction is in place 24 hours a day, seven days a week. The boundary of the restricted area is demarcated with marker buoys and warning signs set at 500 foot intervals. In addition, lighted, floating, small craft intrusion barriers are placed across the Chopawamsic Creek channel at the entrance to the channel from the Potomac River and immediately west of the CSX railroad bridge. Commercial fisherman will be authorized controlled access to the restricted area (with the exception of Chopawamsic Creek channel) after registering with MCB Quantico officials and following specific access notification procedures. The Federal Register published the notice of the final rule (33 CFR Section 334.235) by the U.S. Army Corps of Engineers for restricted area and its boundaries on February 4, 2011. The boundary for Alternative C excludes this restricted area.

MCAF Quantico is the home of HMX-1, a United States Marine Corps helicopter squadron responsible for the transportation of the president of the United States, vice president, cabinet members, and other officials. HMX-1 conducts functional check flights at an altitude of 500 feet or more above ground level (AGL) over the east bank of the Potomac River. These check flights require a large amount of flying at various speeds and usually extend to the boundaries of MACF Quantico's airspace and through the proposed MPNMS area. In addition, MCAF conducts multiple air operations involving various types of rotary and fixed wing aircraft to include the MV-22 Osprey, VH-3D Sea King, VH-60N White Hawk, AV-8B Harrier, F-35B and F-35C Lightning II, C-130 Hercules, C-17 Globemaster, and other aircraft. The sanctuary area proposed in Alternative C lies within the downwind pattern of the airfield and the approach corridor of runway 2 extends out into the proposed sanctuary area. In addition, both Mallows Bay and nearby electrical power lines are reporting points for pilots operating under Visual Flight Rules.

On occasion, the Navy conducts Landing Craft Air Cushion (LCAC) exercises in the Potomac River to and from the MCAF Quantico shoreline. These LCACs, which are based out of Joint Expeditionary Base (JEB) Little Creek-Fort Story, Virginia, usually conduct operations on the river in this area twice a year. Normally about four to six LCACs participate in these operations, although on occasion as many as a dozen may be involved. MCB Quantico also serves as a safe harborage for all LCACs based at JEB Little Creek-Fort Story during dangerous storms, such as powerful hurricanes, in which case all of the LCACs could move up the Potomac River to MCB Quantico for several days until the storm passes.

The MCB Quantico Marina is located beyond the town of Quantico at the east end of Potomac Avenue in Building 25. The marina has over 100 slips, offering daytime, overnight, and long-term berthing for boats up to 50 feet in length, most with electric and water hookups. It has restroom and shower facilities, a pump-out station and a small resale service that sells gas, oil, ice, and other boat supplies on site. It provides direct access to waters bounded by alternatives C and D.

4.6.2 Blossom Point Research Facility

U.S. Army Garrison Adelphi Laboratory Center Blossom Point Research Facility (BPRF) is a 1,600-acre installation located in Charles County on the peninsula formed by Nanjemoy Creek and the Potomac River about 15 miles downstream from Mallows Bay. This facility is located adjacent to waters associated with the downstream portion of Alternative D. BPRF is largely forested with wetlands, open fields, testing areas, and a few buildings. BPRF is used for testing and training activities that include ranges and

other open space (USAG ALC 2014). The primary mission of BPRF is to field test fuzes, explosives and pyrotechnic devices, and electronic telemetry systems. Fuze and related ordnance testing has been conducted at this site since 1942. Typical types of field tests include aircraft tests for light scatter studies; radar air target, encounter simulation; and helicopter drop/recovery of telemetry-instrumented, and simulated projectiles for purposes of gathering baseline data. In addition, the BPRF tests firing, recovery, and disassembly of explosive-loaded, fuzed projectiles for rockets, mortars, and cannons. Much of this research and testing are voluntarily limited to 15 pounds per explosion and the test explosions usually result in short bursts of noise. The test firing area includes components of alternatives C and D. No fixed-wing aircraft operations take place at BPRF. Unmanned aircraft, rockets, and parachutes are used at times for testing. On limited occasions, helicopters use the facility for night-time training. The explosive testing facilities at the BPRF are also available to other interested parties (USAG ALC 2014).

Also located at the BPRF, under a permit from the Army, is the 41 acre Naval Research Laboratory (NRL) which manages satellites through its Blossom Point Tracking Facility, which, at this location, enjoys horizon-to-horizon look angles and an interference-free, low-noise environment. Potential interference with the sensitive satellite antenna radio receivers is minimized by a 2,000-foot-radius buffer zone around the NRL site. The NRL facility at BPRF provides simultaneous tracking and control for NRL and Navy satellites. The NRL also maintains two other associated satellite tracking facilities in Charles County, one in Pomomkey, and the other at Maryland Point on the Potomac River about seven miles south of Mallows Bay.

4.6.3 Naval Support Facility Indian Head

NSF Indian Head occupies 3,500 acres (which includes the 1,113 acre Stump Neck Annex) on the Maryland side of the Potomac River in Charles County about five miles north of Mallows Bay. The installation consists of two parcels - Cornwallis Neck, on the peninsula formed by Mattawoman Creek and the Potomac River, and Stump Neck across the mouth of the creek from Cornwallis Neck. The facility occupies 16.5 miles of shoreline on the Potomac River, Mattawoman Creek, and Chicamuxen Creek and is adjacent to waters associated with the upstream portion of Alternative D.

NSF Indian Head includes Navy and joint tenant commands for research and development activities, as well as operational support programs, that include the Naval Surface Weapons Center Explosive Ordnance Disposal Technology Division, Joint Service Explosive Ordnance Disposal Technology Program, Marine Corps Chemical Biological Incident Response Force, Naval Sea Logistics Center, Naval Ordnance Safety and Security Activity, and the Joint Interoperability Test Command.

The land use on Cornwallis Neck includes an operational area and a restricted area in the southern part of the peninsula, where munitions explosive and rocket motor testing is performed. Stump Neck is the primary location for the Naval Explosive Ordnance Disposal Technology Division and Range 3, where the division performs open air detonations of foreign ordnance. These testing and disposal areas are almost exclusively in waters associated with the upstream portion of Alternative D, although a sliver of the unexploded ordnance area touches the upstream boundary of Alternative C.

NSF Indian Head has designated an area of the waters adjacent to the facilities as a danger zone (33 CFR Part 334.240). This includes the Potomac River and the Mattawoman and Chicamuxen creeks. The NSF Indian Head danger zone regulations state:

(a) The danger zone. Beginning at a point on the easterly shore of the Potomac River at latitude 38°36'00", longitude 77°11'00"; thence to latitude 38°34'30", longitude 77°13'00"; thence to latitude 38°33'20", longitude 77°14'20"; thence to latitude 38°32'20", longitude 77°15'10"; thence to latitude 38°32'00", longitude 77°15'00"; thence to latitude 38°32'30", longitude 77°14'00"; thence to latitude 38°32'30", longitude 77°14'00"; thence upstream along the easterly shoreline of Chicamuxen Creek to its head; thence downstream along the westerly shoreline of Chicamuxen Creek to the southernmost point of Stump Neck; thence northeasterly along the shoreline of Stump Neck to the mouth of Mattawoman Creek; thence along the southeasterly shore of Mattawoman Creek to the pilings remaining from the footbridge connecting the left bank of the creek to the Naval Surface Warfare Center, Indian Head Division; thence along the northwesterly shore of Mattawoman Creek from the pilings remaining from the footbridge to the mouth of the creek; thence in a northeasterly direction along the easterly shore of the Potomac River to the point of beginning.

(b) The regulations.

(1) Firings consisting of controlled explosions within the danger zone, and controlled shore operations, or accidental explosions, hazardous to vessel traffic within the limits of the danger zone, may take place at any time of the day or night and on any day of the week.

(2) Flashing red lights, horns, and signs established at appropriate points will warn vessels of impending tests or operations considered to be hazardous to vessels within the danger zone.

(3) No persons or vessels, except vessels of the United States or vessels authorized by the enforcing agency, shall enter or remain in the danger zone while lights are flashing, when warning horns are in operation, or when warned or directed by a patrol vessel.

(4) Nothing in this section shall prohibit the use of Mattawoman Creek or Chicamuxen Creek as a harbor of refuge because of stress of weather.

(5) Except as prescribed in paragraph (b)(3) of this section, persons and vessels may enter and proceed through the danger zone without restriction. However, accidental explosions may occur at any time and persons and vessels entering the area do so at their own risk.

(6) Fishermen operating in the danger zone when warning signals are sounded shall evacuate the area immediately.

(7) The regulations in this section shall be enforced by the commanding officer, U.S. Naval Surface Warfare Center, Indian Head Division, Indian Head, Maryland.

4.6.4 Naval Support Facility Dahlgren

The NSF Dahlgren is located in King George County, Virginia along the Potomac River about 20 miles downstream from Mallows Bay. The 4,300 acre base is composed of two areas – the Mainside located north of Machodoc Creek and the Pumpkin Neck Annex (also called the Explosive Experimental Area) on the south side of Upper Machodoc Creek.

The NSF Dahlgren is home to the Naval Surface Warfare Center Dahlgren Division whose mission is to provide research, development, test and evaluation, analysis, system engineering integration, and certification of complex naval warfare systems. It is a major testing area for naval guns and ammunition including the Electromagnetic Railgun and pulsed power, microwave, and laser technologies.

Although the NSF Dahlgren is located outside of the alternatives considered for the national marine sanctuary, the facility has three designated “danger areas” in the waters adjacent to the facility. The Upper Danger Zone extends north of the Nice Bridge up to Port Tobacco Creek. This area includes waters associated with the downstream portion of Alternative D. The regulations for the danger zones (33 CFR Part 334.230) are as follows:

(a) Naval Surface Warfare Center, Dahlgren, Virginia -

(1) The areas. Portions of the Upper Machodoc Creek and Potomac River near Dahlgren, Virginia as described below:

(i) Lower zone. The entire portion of the lower Potomac River between a line from Point Lookout, Maryland, to Smith Point, Virginia, and a line from Buoy 14 (abreast of St. Clements Island) to a point near the northeast shore of Hollis Marsh at latitude $38^{\circ}10'00''$, longitude $76^{\circ}45'22.4''$. Hazardous operations are conducted in this zone at infrequent intervals.

(ii) Middle zone. Beginning at the intersection of the Harry W. Nice Bridge with the Virginia shore; thence to Light 33; thence to latitude $38^{\circ}19'06''$, longitude $76^{\circ}57'06''$ which point is about 3,300 yards east-southeast of Light 30; thence to Line of Fire Buoy O, about 1,150 yards southwest of Swan Point; thence to Line of Fire Buoy M, about 1,700 yards south of Potomac View; thence to Line of Fire Buoy K, about 1,400 yards southwesterly of the lower end of Cobb Island; thence to Buoy 14, abreast of St. Clements Island; thence southwest to a point near the northeast shore of Hollis Marsh at latitude $38^{\circ}10'00''$, longitude $76^{\circ}45'22.4''$; thence northwest to Line of Fire Buoy J, about 3,000 yards off Popes Creek, Virginia; thence to Line of Fire Buoy L, about 3,600 yards off Church Point; thence to Line of Fire Buoy N, about 900 yards off Colonial Beach; thence to Line of Fire Buoy P, about 1,000 yards off Bluff Point; thence northwest to latitude $38^{\circ}17'54''$, longitude $77^{\circ}01'02''$, a point of the Virginia shore on property of the Naval Support Facility Dahlgren, a distance of about 4,080 yards; thence north along the Potomac shore of Naval Surface Warfare Center, Dahlgren to Baber Point; thence west along the Upper Machodoc Creek shore of Naval Surface Warfare Center, Dahlgren to Howland Point at latitude $38^{\circ}19'0.5''$, longitude $77^{\circ}03'23''$; thence northeast to latitude $38^{\circ}19'18''$, longitude $77^{\circ}02'29''$, a point on the Naval Surface Warfare Center, Dahlgren shore about 350 yards southeast of the base of the Navy recreational pier. Hazardous operations are normally conducted in this zone daily except Saturdays, Sundays, and national holidays.

(iii) Upper zone. Beginning at Mathias Point, Virginia; thence north to Light 5; thence north-northeast to Light 6; thence east-southeast to Lighted Buoy 2; thence east-southeast to a point on the Maryland shore at approximately latitude $38^{\circ}23'35.5''$, longitude

76°59'15.5"; thence south along the Maryland shore to, and then along, a line passing through Light 1 to the Virginia shore, parallel to the Harry W. Nice Bridge; thence north with the Virginia shore to the point of beginning. Hazardous operations are conducted in this zone at infrequent intervals.

(2) The regulations.

(i) Hazardous operations normally take place between the hours of 8 a.m. and 5 p.m. daily except Saturdays, Sundays, and national holidays, with infrequent night firing between 5 p.m. and 10:30 p.m. During a national emergency, hazardous operations will take place between the hours of 6 a.m. and 10:30 p.m. daily, except Sundays. Hazardous operations may involve firing large or small caliber guns and projectiles, aerial bombing, use of directed energy, and operating manned or unmanned watercraft.

(ii) When hazardous operations are in progress, no person, or fishing or oystering vessels shall operate within the danger zone affected unless so authorized by the Naval Surface Warfare Center, Dahlgren's patrol boats. Oystering and fishing boats or other craft may cross the river in the danger zone only after they have reported to the patrol boat and received instructions as to when and where to cross. Deep-draft vessels using dredged channels and propelled by mechanical power at a speed greater than five miles per hour may proceed directly through the danger zones without restriction except when notified to the contrary by the patrol boat. Unless instructed to the contrary by the patrol boat, small craft navigating up or down the Potomac River during hazardous operations shall proceed outside of the northeastern boundary of the Middle Danger Zone. All craft desiring to enter the Middle Danger Zone when proceeding in or out of Upper Machodoc Creek during hazardous operations will be instructed by the patrol boat; for those craft that desire to proceed in or out of Upper Machodoc Creek on a course between the western shore of the Potomac River and a line from the Main Dock of Naval Surface Warfare Center, Dahlgren to Line of Fire Buoy P, clearance will be granted to proceed upon request directed to the patrol boat.

(iii) Due to hazards of unexploded ordnance, no person or craft in the Middle Danger Zone shall approach closer than 100 yards to the shoreline of Naval Surface Warfare Center, Dahlgren, previously known as the Naval Surface Weapons Center.

(3) Enforcement. The regulations shall be enforced by the commander, Naval Surface Warfare Center, Dahlgren, and such agencies as he/she may designate. Patrol boats, in the execution of their mission assigned herein, shall display a square red flag during daylight hours for purposes of identification; at night time, a 32 point red light shall be displayed at the masthead. Naval Surface Warfare Center, Dahlgren (Range Control) can be contacted by Marine VHF radio (Channel 16) or by telephone (540) 653-8791.

(4) Exceptions. Nothing in this regulation shall be intended to prevent commercial fishing or the lawful use of approved waterfowl hunting blinds along the shorelines of Naval Surface Warfare Center, Dahlgren, provided that all necessary licenses and permits have been obtained from the Maryland Department of Natural Resources, the Virginia Department of Game and Inland

Fisheries, or the Potomac River Fisheries Commission. Waterfowl hunters shall provide a completed copy of their blind permit to the Natural Resources Manager at Naval Surface Warfare Center, Dahlgren. Commercial fishermen and waterfowl hunters must observe all warnings and range clearances, as noted herein. Federal, state, and local law enforcement agencies are exempt from the provisions of paragraph (a) of this section.

Many of the anticipated actions and activities that may occur as a result of any national marine sanctuary designation at Malloys Bay-Potomac River would occur on the waters of the Potomac River and its tributaries, some of which are anticipated to overlap with marine areas utilized by the aforementioned U.S. DoD installations. Some existing overlaps are known and already occur and may vary between seasons. For instance, the Navy, commercial and industrial vessels (e.g., fuel barges, gravel barges), commercial fishing, and recreational users already operate in common waters. Marine freight activities south of Washington, D.C., on the Potomac River, are already limited by a relatively shallow draft at a number of locations – e.g., vessel draft limits are 19.8 feet (ft.) at the Mattawoman Bar and 18.5 ft. at the Hunting Creek Shoal.



Chapter 5

ENVIRONMENTAL CONSEQUENCES

5.1 INTRODUCTION

This section evaluates the anticipated environmental impacts resulting from the implementation of each of the sanctuary boundary alternatives, including the no action alternative, presented in Chapter 3. The potential impacts would be applicable to the affected environment described in Chapter 4. Also discussed are potential cumulative impacts; unavoidable adverse impacts; the relationship between short-term uses and long-term productivity; and the irreversible and irretrievable commitment of resources. As described in Chapter 3, the alternatives include a spatial, regulatory, and management component. However, the difference between the alternatives is the spatial component.

Under NEPA (42 U.S.C. 4321 *et seq.*), an environmental assessment would not have sufficed to analyze the impacts of this action since NOAA has determined that significant positive impacts are likely under alternatives B, C, and D for the maritime cultural resources. Additionally, the NMSA requires NOAA to publish an FEIS regardless of the intensity of the impacts of the proposed action if NOAA is designating a new national marine sanctuary (16 U.S.C. 1434).

5.2 AFFECTED RESOURCES AND POTENTIAL IMPACTS

The following sections describe the environmental consequences of the alternatives. The potential impacts, both beneficial and adverse, have been described by their characteristics: type (direct, indirect, or cumulative), duration (short- or long-term), geographic extent (localized or beyond project site), and magnitude/intensity; and an adverse or beneficial qualifier is applied (see Table 19). While the application of comprehensive sanctuary management activities, regulations, and resource protection programs to nationally significant cultural and historic features constitutes the primary and most direct benefit of the proposed action and the alternatives, there are several other anticipated benefits and minor adverse impacts to the human environment within and beyond the alternative areas as well. These consequences are common to expansion Alternatives B, C, and D, though proportional to the geographic extent of the alternative. Evaluations are provided for each resource element described in Chapter 4 (Affected environment).

5.2.1 Types of potential impacts

Direct, indirect, and cumulative impacts are defined at 40 CFR 1508.7 and 1508.8, and these definitions are presented below. These categories are used to describe the nature, timing, and proximity of potential impacts on the affected area. Cumulative impacts as defined below are discussed in Section 5.3.7.

- **Direct impact:** A known or potential impact caused by the proposed action or project that occurs at the time and place of the action.

- **Indirect impact:** A known or potential impact caused or induced by the proposed action or project that occurs later than the action or is removed in distance from it, but is still reasonably expected to occur.
- **Cumulative impact:** A known or potential impact resulting from the incremental effect of the proposed action added to other past, present, or reasonably foreseeable future actions.

5.2.2 Duration of potential impacts

The duration of the potential impact can be defined as either short-term or long-term and indicates the period of time during which the environmental resource would be impacted. Duration takes into account the permanence of an impact or the potential for natural attenuation of an impact. In general, the impacts of all of the proposed alternatives would be long-term or permanent. The duration of each potential impact is defined as follows:

- **Short-term impact:** A known or potential impact of limited duration, relative to the proposed action and the target resource. For the purposes of this analysis, these impacts may be instantaneous or may last minutes, hours, days, or up to five years.
- **Long-term impact:** A known or potential impact of extended duration, relative to the proposed action and the environmental resource. For the purposes of this analysis, these impacts would last longer than five years.
- **Permanent impact:** A known or potential impact that is likely to remain unchanged indefinitely.

5.2.3 Geographic extent

National marine sanctuary designation can cause impact at geographic scales beyond the proposed boundaries. For the purposes of this analysis, impacts are assessed in two ways:

- **Localized:** Site-specific and generally limited to the area within the proposed boundaries.
- **Beyond proposed boundaries:** Unconfined or unrestricted to the proposed boundaries. These impacts may extend only in the immediate vicinity of a proposed boundary or throughout Charles County, Maryland and/or throughout Prince William, Stafford, and King George counties in Virginia.

5.2.4 Magnitude of potential impacts

The magnitude or intensity of a known or potential impact is defined on a spectrum ranging from no impacts to major impacts. The potential impacts could be either beneficial or adverse for a particular resource. The intent of the proposed action is to provide beneficial impacts to the target resources.

- **Minor impacts** to the structure or function of a resource might be perceptible, but are typically not amenable to measurement. This term is closely linked to “negligible” which refers to a level that is below significant to the point of being hardly detectable. These are typically localized, but may in certain circumstances extend beyond a proposed boundary. Generally, minor impacts are those that, in their context and due to their low level of severity, do not have the potential to meet the considerations of “significance” set forth in the Council on Environmental Quality (CEQ) regulations (40 CFR 1508.27).
- **Moderate impacts** to the structure or function of these resources are more perceptible and, typically, more amenable to quantification or measurement. These can be both localized, or may

extend beyond a proposed boundary. Generally, moderate impacts are those that, in their context and due to their low level of severity, do not have the potential to meet the considerations of “significance” set forth in CEQ regulations (40 CFR 1508.27).

- **Major impacts** to these resources are typically obvious, amenable to quantification or measurement, and result in substantial structural or functional changes to the resource. These can be localized, or may extend beyond a proposed boundary. Generally, major impacts are those that in their context and due to their severity, have the potential to meet the considerations of “significance” set forth in CEQ regulations (40 CFR 1508.27).

Table 19: Summary of terms used to describe potential environmental impacts

Type of Impact	Duration of Impact	Geographic Extent	Magnitude / Intensity	Qualifier	Significance Determination
Direct	Short-term	Localized	Minor	Adverse	No effect
Indirect	Long-term	Beyond proposed boundaries	Moderate	Beneficial	Negligible
Cumulative	Permanent		Major	Neutral	Less than significant (<) Significant (>)

5.3 ANALYSIS OF ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

5.3.1 Alternative A: No action

The no action alternative would mean not establishing a national marine sanctuary in this area. Implementation of the no action alternative would mean no changes to existing management of the resources in this area described above in Chapter 4 Affected environment. While the state of Maryland laws and other federal laws set forth in Section 2.4 of this FEIS would continue to apply, the additional authority to provide uniform protection, cooperative management, research, education, and development of this rich maritime heritage would not exist. Under the no action alternative, resources will continue to be potentially adversely impacted by the threats identified in Section 2.3 of this FEIS, continued degradation from these threats could occur, and over time may result in potentially adverse but less than significant effects. The no action alternative provides a baseline against which environmental consequences of the national marine sanctuary designation alternatives can be compared.

Physical environment/biological resources

Under the no action alternative, the study area would continue to be managed under existing state of Maryland and other federal laws as set forth above in Section 2.4. There would be no impact on the additional physical environment and biological resources in the study area since no action would leave the environment as is, without adding additional indirect beneficial or adverse impacts that would result from a sanctuary designation and the associated activities in the area. In other words, the water quality/quantity, water dynamics, climate, and noise would remain as described in Section 4.2. The presence of the shipwrecks provides some stabilization to local sediments. The no action alternative could result in localized destabilization of the sediments due to the further degradation of the shipwrecks. In addition,

and as detailed in Section 4.4, the biological resources of the study area – specifically the fisheries, protected species, and critical habitat, terrestrial species, and tidal river, palustrine, and essential fish habitats – would remain unchanged and not experience any of the indirect benefits of sanctuary designation.

Anchoring is the most common activity taking place within the sanctuary that has the potential to affect the physical environment. Anchoring, particularly large or heavy anchors, disrupts the bottom substrates and can cause minor negative impacts to the river bed. The sanctuary management activities is focused on anchoring only as it relates to impacts on maritime heritage resources, therefore there would be limited effects on bottom substrates.

Maritime cultural landscape resources

Maintaining the status quo and not designating a national marine sanctuary in the study area will allow existing activities to continue, and will forego the opportunity for cooperative management, research, education, and development of the rich maritime heritage of Malloys Bay. Currently, there is very little research on the maritime cultural heritage resources of the study area. As explained in the Chapter 3 description of Alternative A, no action or status quo alternative, only the work of Donald Shomette and official reports housed at the Maryland Historical Trust detail the maritime resources of the area, which is otherwise not well known or promoted. Although some new studies may be conducted, there would be no institutional framework for long-term planning and coordination of activities in the study area.

The maritime cultural heritage resources would also not have the added regulatory and non-regulatory protections that sanctuary status would provide and this would leave resources vulnerable to persistent damage either through a lack of understanding and appreciation of the historic nature of the resources or through damage not prohibited under existing state of Maryland and other federal laws. As described in Section 2.3 of this FEIS, these impacts (or threats to target resources) include, but are not limited to: (1) anchoring; (2) collisions between vessels and the resources; (3) moving or removing resources (or portions thereof) from the area; (4) walking or climbing on the portions of shipwrecks above water; (5) “tying off” a watercraft on the resources; (6) arson; and (7) littering.

Within the Historic District

Approximately 142 vessels are located within the Historic District. As noted in Section 2.4 and the description of Alternative A in Chapter 3, the principal statutes that protect the maritime cultural heritage within the Historic District are: (1) the Maryland Submerged Archaeological Historic Property Act; (2) the Chesapeake Bay Critical Area Protection Act; (3) the National Historic Preservation Act; (4) Abandoned Shipwreck Act; (5) the Archaeological Resources Protection Act; and (6) the Sunken Military Craft Act. None of these statutes provide comprehensive protection of the maritime cultural heritage resources, and each has its own discernable gaps in protection that would be addressed designating a sanctuary under the NMSA. The gap analysis of each statute is set forth in Section 2.4 would continue to apply. By not implementing the sanctuary education and outreach management actions and regulatory prohibitions that address the protection of maritime cultural heritage resources, adverse impacts currently faced by these resources due to the gap would continue (see Table 20, rows 7 and 8).

Outside the Historic District

An additional nine vessels are located outside of the Historic District. Vessels lying outside the NHPA Historic District would be subject to protection under state law and all other federal laws (except NHPA) described in Section 2.4. If deemed eligible for listing under NHPA, they may be protected similar to the Historic District vessels. The Maryland Submerged Archaeological Historic Property Act will continue to allow for a limited collection of artifacts without a permit for resources not protected by NHPA. Enforcement of the Maryland Submerged Archaeological Historic Property Act will continue to be deficient because violations are treated as a criminal misdemeanor with lower money penalties than those established under the NMSA. The other remaining federal statutes identified in Section 2.4 are fairly narrow in application or otherwise only provide indirect protection of the maritime cultural heritage resources.

Socioeconomic resources

Under the no action alternative, the impacts to the socio-economic resources (see Table 20, rows 17, 18, 20, 21) of the area would be potentially adverse but less than significant effects. Existing recreational (including hunting and fishing) and commercial activities (including fishing and tourism) would continue, but without sanctuary designation, opportunities to attract new visitors to the area might otherwise be lost. Should a sanctuary not be established, increased visitation without additional infrastructure to manage it would lead to indirect, less than significant adverse impacts on the local economy. If a sanctuary is not designated, there will be less public awareness of the maritime history and national significance of this Mallows Bay area, less scientific and historical research, no new education or programs directed at visitors and users, and no institutional framework for long-term planning and coordination of activities in this particularly valuable geographic area.

The socioeconomic resources of the area, including the water access and facilities (see Table 20, row 17), other recreational uses (see Table 20, row 18), tourism (see Table 20, row 20), the local economy (see Table 20, row 21), and passive economic use (see Table 20, row 22) would experience indirect, less than significant adverse impacts because there would be no sanctuary designation to draw attention to the area and bring in additional visitors to drive economic development as has been seen in other national marine sanctuaries around the country. These adverse impacts of lost opportunity are less than significant under the no action alternative due to their low level of intensity in the context of current management and economic development in the area.

Department of Defense facilities

Under the no action alternative, there would be no impact to the Department of Defense facilities. All of the facilities would continue to operate according to the status quo as described above in Section 4.6.

Table 20: Summary of the environmental consequences of Alternative A, the “no action” alternative.

Row #	Resource	Sub - Category	Detail of Sub - category	Impact Type	Impact Duration	Geographic Extent	Magnitude / Intensity	Quality	Significance
1	Physical environment	Geology		Indirect	Permanent	Localized	Minor	Adverse	Less than significant
2		Water	Quality/ quantity	None	Permanent	Localized	N/A	N/A	No effect
3			Dynamics	None	Permanent	Localized	N/A	N/A	No effect

4		Air quality		None	Permanent	Localized	N/A	N/A	No effect
5		Climate		None	Permanent	Localized	N/A	N/A	No effect
6		Noise		None	Permanent	Localized	N/A	N/A	No effect
7	Maritime cultural landscape resources	Within Historic District		Indirect	Permanent	Localized	Moderate	Adverse	Less than significant
8		Outside Historic District		Indirect	Permanent	Localized	Moderate	Adverse	Less than significant
9	Biological Resources	Fisheries		None	Permanent	Localized	N/A	N/A	No effect
10		Protected species & critical habitat		None	Permanent	Localized	Minor	Adverse	Less than significant
11		Birds		None	Permanent	Localized	N/A	N/A	No effect
12		Terrestrial species		Indirect	Permanent	Localized	Minor	Adverse	Less than Significant
13		Habitat	Tidal river	None	Permanent	Localized	Minor	Adverse	Less than significant
14			Palustrine	None	Permanent	Localized	Minor	Adverse	Less than significant
15			Terrestrial	None	Permanent	Localized	Minor	Adverse	Less than significant
16			EFH	None	Permanent	Localized	Minor	Adverse	Less than significant
17	Socio-economic resources	Water access & facilities		Indirect	Permanent	Localized	Minor	Adverse	Less than significant
18		Recreational uses		Indirect	Permanent	Localized	Minor	Adverse	Less than significant
19		Commercial uses		None	Permanent	Localized	N/A	N/A	No effect
20		Tourism		Indirect	Permanent	Localized	Minor	Adverse	Less than significant
21		Local economy		Indirect	Permanent	Localized	Minor	Adverse	Less than significant
22		Passive economic use		Indirect	Permanent	Localized	Minor	Adverse	Less than significant
23	Department of Defense facilities	MCB Quantico		None	Permanent	Localized	N/A	N/A	No effect
24		Blossom Point		None	Permanent	Localized	N/A	N/A	No effect
25		NSF Indian Head		None	Permanent	Localized	N/A	N/A	No effect
26		NSF Dahlgren		None	Permanent	Localized	N/A	N/A	No effect

5.3.2 Impacts common to alternatives B, C, and D

The environmental consequences for 19 of the 26 resources categories described in Chapter 4 are the same for the action alternatives (B, C, and D). Table 21 summarizes the impacts common across

Alternatives B, C, and D. Detailed descriptions of these common impacts are below. The differences between the action alternatives is based on the square mileage of area included in the proposed boundary as described in Chapter 3. For the resources categories below, the difference in area did not affect the environmental consequences. For additional information on minor differences across action alternatives in terms of order of magnitude, see Section 5.3.7.

Table 21: Summary of the environmental consequences common to alternatives B, C, and D

Row #	Resource	Sub – category	Detail of Sub - category	Impact Type	Impact Duration	Geographic Extent	Magnitude / Intensity	Quality	Significance
1	Physical environment	Geology		Indirect	Permanent	Localized	Minor	Beneficial	Negligible
2		Water	Quality / quantity	Indirect	Short term	Localized	Minor	Adverse	Negligible
3		Water	Dynamics	None	Permanent	Localized	N/A	N/A	No effect
4		Air Quality		Indirect	Short term	Localized	Minor	Adverse	Negligible
5		Climate (includes climate change)		Indirect	Short term	Localized	Minor	Adverse	Negligible
6		Noise		Indirect	Short term	Localized	Minor	Adverse	Negligible
9	Biological resources	Fisheries		Indirect	Long term	Beyond	Minor	Beneficial	Less than significant
10		Protected species (includes critical habitat)		Indirect	Long term	Beyond	Minor	Beneficial	Less than significant
11		Birds		Indirect	Long term	Beyond	Minor	Beneficial	Less than significant
12		Terrestrial species		Indirect	Long term	Beyond	Minor	Beneficial	Less than significant
13		Habitat	Tidal river	Indirect	Long term	Beyond	Moderate	Beneficial	Less than significant
14		Habitat	Palustrine	Indirect	Long term	Beyond	Minor	Beneficial	Less than significant
15		Habitat	Terrestrial	Indirect	Long term	Beyond	Minor	Adverse	Less than significant
16		Habitat	EFH	Indirect	Long term	Beyond	Minor	Beneficial	Less than significant
18	Socio-economic resources	Other recreational uses		Direct	Permanent	Localized	Moderate	Beneficial	Less than significant
19		Commercial uses		Indirect	Permanent	Localized	Minor	Beneficial	Less than significant
20		Tourism		Direct	Permanent	Beyond	Moderate	Beneficial	Less than significant
21		Local economy		Indirect	Long term	Beyond	Moderate	Beneficial	Less than significant

22		Passive economic use		Indirect	Long term	Beyond	Minor	Beneficial	Less than significant
----	--	----------------------	--	----------	-----------	--------	-------	------------	-----------------------

Physical environment

Geology

Overall there is expected to be an indirect, permanent, local, minor, beneficial, negligible impact (Table 21, Row 1) on the geology of the area from a combination of minor positive and minor negative impacts. The historic resources lie within the river bed and have become immersed in the bottom substrates. Due to the relationship between the historic resources and the river bed, the continued existence of the wrecks helps stabilize the sediment, therefore sanctuary designation will have a minor permanent, indirect, and beneficial impact to the river bed substrates. The proposed sanctuary regulations prohibit damage to the historical resources. Since the historical resources are irrevocably connected to the river bed substrates, actions to protect the historical resources ultimately will also indirectly benefit the underlying substrates. Likewise, actions that threaten the historical resources would likely also negatively impact the substrates. Activities that may negatively impact the geological structure and substrates in the study area include fishing with bottom-tending gears, anchoring, scraping, digging, dredging, sand and mineral mining, and oil and gas exploration. It is anticipated that any one of these activities would have a direct, but permanent effect on the geology. Impacts would likely be minor and would be localized to where the activity took place.

Anchoring, particularly large or heavy anchors, disrupts the bottom substrates and can cause minor negative impacts to the river bed. Increased visitation because of a national marine sanctuary designation has the potential to increase this type of damage that would result in a negative impact. Education and outreach program are planned to mitigate this type of unintended damage by promoting best practices, including the use of marked water trails, guide maps, and related outreach materials that encourage responsible use of the area. Other activities, such as dredging, could have an impact on the river bed; however, the sanctuary would only be involved if the activity would impact sanctuary resources. Also, while it does not currently occur in the area, oil drilling adjacent to the area or under the Potomac River through directional drilling has the potential to permanently alter the geological structure and underlying substrates. Again, the sanctuary would only be involved if the activity would impact sanctuary resources.

Water resources

Quality and quantity

Discharge from the increased number of boaters visiting the sanctuary for recreational, educational, or research purposes would indirectly have a potentially adverse, but minor impact on the water quality of the area (Table 21, row 2). Water quality impacts are negligible due to the short-term and localized nature of increased boating traffic. There are no discharge regulations associated with the sanctuary, so no direct effects to water quality.

Water Dynamics

Designation of the sanctuary would have no effect on the quantity of water or dynamics within the Potomac River (Table 21, row 3).

Air quality

Exhaust from vessel traffic on the Potomac River is not currently regulated, and no additional regulation will be enacted with designation of this sanctuary (Table 21, row 4). Increased vessel traffic related to increased visitation of the sanctuary may have an adverse, but minor impact on air quality. This indirect impact to air quality would be localized to the sanctuary boundaries on a short-term basis, and would be negligible.

Climate

Increased exhaust due to vessel traffic as noted above may contribute to an increase of greenhouse gases contributing to a change in the Earth's climate. The adverse impact of the gases associated with a localized increase in visitation and use of the sanctuary is minor, and considered negligible in the context of the greater Chesapeake Bay (Table 21, row 5).

Noise

Increased visitation to the area, including vehicular traffic on the roadways and vessel traffic on the water, may contribute to a minor increase in noise pollution in the area. This adverse impact would be short-term (only when visitors are present) and localized, and is expected to be less than significant (Table 21, row 6).

Biological resources

Fisheries, protected species, birds, and terrestrial species

A diverse range of biological resources including fish, protected species, birds, and terrestrial species are found throughout the study area as described in Chapter 4. Because these species utilize the shipwrecks for a variety of their life stages, including spawning, there is expected to be indirect, minor, and beneficial impacts to the biological resources from additional protection of the shipwrecks by the national marine sanctuary (Table 21, rows 9, 10, 11, and 12). The species that directly use the shipwreck habitat would see the most benefit from the direct conservation of their habitat.

Management actions could increase attention to, study of, and interpretation for, the biological resources. The additional information will help state and local managers carry out their programs and policies more effectively for the biological resources resulting in indirect, beneficial, and long term impacts to the biological resources beyond the sanctuary boundary. There are no foreseeable negative impacts to the biological resources under alternatives B, C, or D.

Habitat

Tidal river, palustrine, and essential fish habitat

The boundaries of alternatives B, C, and D contain only tidal river habitat. While the proposed national marine sanctuary designation is focused on the conservation of maritime cultural heritage resources it is expected that the river habitat will see indirect, minor, beneficial, less than significant impacts by protecting this current, unique habitat feature (Table 21, row 13). The proposed regulation prohibiting damage to the shipwrecks would preserve the current status of tidal river habitat where the shipwrecks create vertical habitat features used by the biological resources described in Chapter 4. Without a national marine sanctuary designation, the shipwrecks, and therefore some of the tidal habitat, would be vulnerable to degradation from human impacts. Because the beneficial impact to the habitat is estimated

to be less than significant and indirectly related to the conservation of shipwrecks, the benefits of the proposed action are proportional to the size of the area designated.

Adjacent to the boundaries of alternatives B, C, and D are areas of palustrine habitat located off the main river channel. Conservation of the shipwrecks will contribute to long-term maintenance of the surrounding habitats by continuing to provide nursery habitat for species that use surrounding areas. In addition, MPNMS outreach activities will educate communities about the benefits of habitat protection, natural landscaping, and the overflow effects from protecting the sanctuary. This area is expected to see the same type of indirect, minor beneficial impacts as the tidal river habitat from a national marine sanctuary designation (Table 21, row 14).

The tidal river habitat also serves as EFH for summer flounder (*Paralichthys dentatus*) and bluefish (*Pomatomus saltatrix*), and serves as critical habitat for Atlantic sturgeon (*Acipenser oxyrinchus*) (see Section 4.4.5.4 EFH/critical habitat for more information). These important habitat types will see the same indirect, minor, beneficial impacts as the tidal river habitat from designating the area as a national marine sanctuary (Table 21, row 16).

Terrestrial

Since the boundaries of the sanctuary lie within the waters of the Potomac River, any impacts to adjacent terrestrial habitats would be indirect. There are no regulatory or non-regulatory actions planned in this proposed action that would provide a positive or negative impact on the terrestrial habitat, but increase use of the river habitat may increase visitation to the adjacent terrestrial habitat. The visitation will likely bring positive benefits to the terrestrial habitat, such as shoreline cleanup efforts, as well as negative impacts from the pressure of more people using the land adjacent to the sanctuary area. Therefore, NOAA estimates that terrestrial habitat will see a minor, adverse impact that is less than significant (Table 21, row 15).

Socio-economic resources

Other recreational uses

Recreational use of the Potomac River in the area under consideration for designation will permanently benefit from an increase in access, outreach, and education to visitors (Table 21, row 18). Designation is anticipated to have a localized, direct impact by increasing awareness and therefore usage of the area for recreational purposes. Development of educational materials and water trail maps will enhance the visitor experience. There are no new regulations proposed that would limit any recreational use in the area, including recreational fishing, hunting, guide services, fossil collecting, birding, wildlife viewing, boating, and paddling. While moderately beneficial, the impacts of designation to recreation are expected to be less than significant.

Commercial uses

Localized increases in the number of vessels on the water are anticipated with sanctuary designation, but no changes are expected in the volume of commercial fishing or shipping as a result of sanctuary designation. There are no anticipated impacts to existing commercial shipping activities that occur throughout the proposed designation areas since operators use the main channel of the river.

Under the proposed regulations, NOAA would prohibit moving, removing, recovering, altering, injuring, destroying, possessing, or attempting to move, remove, recover, alter, injure, destroy, or possess a

sanctuary resource. The sanctuary has no plan to regulate, alter, or negatively impact fishing. NOAA does not expect any impact to businesses related to commercial fishing, recreational for-hire fishing operations, and other operators in all of the proposed action alternatives (B, C, and D). Education and outreach will be used to educate user groups about the location of the sanctuary resources to prevent anchor damage.

Certain management activities, such as improving safe passage markers, additional water quality monitoring, and developing outreach materials useful for fishing operations would have beneficial impacts for commercial fishing operators. Impacts to commercial uses under all alternatives are anticipated to be indirect, beneficial, permanent, localized, and minor (Table 21, row 19).

Tourism, local economy, passive economic use

Based upon the proposed regulations there are expected to be direct and indirect beneficial impacts to the local economy and small businesses from the proposed action alternatives (B, C, and D). As previously mentioned in Chapter 4, visiting historical sites is a popular recreational activity in both Maryland and Virginia. A sanctuary designation may help to increase awareness of the historical and cultural resources within proposed sanctuary. It is expected that designation of Malloys Bay-Potomac River as a sanctuary would draw more tourists to the site and the surrounding area. Businesses that relate directly to MPNMS, such as kayak outfitters and charter fishing boats, would likely see an increase in customers. The potential benefit of outreach and education efforts that may arise as a result of sanctuary designation is the ability of existing tourism and recreational businesses or entrepreneurs to leverage the sanctuary and its resources to expand their business. In which case, recreational operators could potentially see a permanent, direct, moderate positive benefit (Table 21, row 20). Businesses in the wider local economy may also see an indirect benefit from the increased visitation as visitors spend money at other local businesses not directly focused on tourism. It is estimated the local economy will see an indirect, moderate, beneficial impact from sanctuary designation (Table 21, row 21). Passive use may create additional economic value and benefits as people spend time and money to learn about the resources through the purchase of materials such as books, brochures, etc. Sanctuary designation has the potential to create indirect, minor, beneficial impacts for passive economic use (Table 21, row 22). Additionally, the proposed sanctuary regulations will have no impact on personal property rights, land use, and planning.

5.3.3 Impacts specific to Alternative B

In addition to the impacts common to the action alternatives (B, C, and D), there are impacts specific to each of three boundary alternatives related to maritime cultural landscape resources, water access and facilities, and the four DoD facilities in the area. Table 22 shows the impacts specific to Alternative B.

Table 22: Summary of the environmental consequences of Alternative B.

Row #	Resource	Sub-category	Impact Type	Impact Duration	Geographic Extent	Magnitude / Intensity	Quality	Significance
7	Maritime cultural landscape resources	Within Historic District	Direct	Permanent	Localized	Major	Beneficial	Significant
8		Outside Historic District	Indirect	Permanent	Localized	Minor	Beneficial	Less than significant
17	Socio-economic resources	Water access & facilities	Indirect	Long Term	Localized	Moderate	Beneficial	Less than significant

23	Department of Defense facilities	MCB Quantico	Indirect	Permanent	Localized	Minor	Beneficial	Less than significant
24		Blossom Point	No impact	Permanent	N/A	N/A	N/A	No effect
25		NSF Indian Head	No impact	Permanent	N/A	N/A	N/A	No effect
26		NSF Dahlgren	No impact	Permanent	N/A	N/A	N/A	No effect

Maritime cultural landscape resources

Within Historic District

If Alternative B is selected, the management framework within the Mallows Bay-Widewater Historic and Archeological District would benefit by the additional enforcement provisions afforded by sanctuary status under the NMSA and the non-regulatory management activities (e.g., education and outreach programs). Education and outreach help increase awareness, appreciation, and stewardship of sanctuary resources. This benefit would be a permanent, major, beneficial direct, and significant for the local area covered by the designation (Table 22, row 7).

Outside Historic District

Outside the Historic District the management framework would remain the same as the current status. Maritime cultural heritage resources overall would continue to be governed by state legislation, specifically the Maryland Submerged Archaeological Historic Property Act, that allows limited collection of artifacts without a permit. At least two WWI/USEFC vessels in Maryland waters would be outside of sanctuary boundaries and the attention drawn to these vessels through the sanctuary designation process could make them vulnerable to casual damage by increased visitation without the increased protection of the sanctuary status. However, some indirect, positive impacts may occur beyond the sanctuary boundary due to the potential increased stewardship ethic demonstrated by people moving from inside the sanctuary to outside. The overall impact would be minor, beneficial, and less than significant (Table 22, row 8). This would be true of all elements of the maritime cultural landscape but the vessels related to the USEFC would be especially salient.

Socio-economic resources

Water access and facilities

Water access areas for public recreation are still very limited in the area of the Potomac River near the proposed sanctuary boundaries. Both a Charles County June 2015 recreational mapping workshop and the sanctuary designation public scoping sessions in October 2015 revealed a strong demand for more shoreline and boating access. The Charles County Land Preservation, Parks, and Recreation Plan and the Southern Maryland Heritage Tourism Plan both also identify a need for additional shoreline access for fishing, walking, nature viewing, and boat ramps and facilities for power, sail, and paddleboats in Charles County.

Socio-economic resources (gas stations, convenience stores, bait shops) are also very limited along road access points to the shoreline and along the shoreline of the proposed sanctuary boundaries. Visitation to Mallows Bay Park (the main access point to the shipwrecks at Mallows Bay) has already increased

dramatically due to the development of the park and the increased awareness of the historic resources there. It is anticipated that this already increased visitation and new tourism associated with sanctuary designation will provide the impetus for the development of new businesses to serve visitors to the sanctuary.

If Alternative B was selected, the proposed sanctuary would include six miles of publicly accessible shoreline located within three state and county parks. The potential to enhance supporting resources would be geographically limited to these areas. The benefit from Alternative B for water access and facilities would be indirect, moderate, and less than significant (Table 22, row 17).

Department of Defense facilities

Quantico, Blossom Point, Indian Head, Dahlgren

The northern boundary of Alternative B would end south of the MCB Quantico and the associated restricted area, and the boundary would not overlap or approach BPRF, NSF Indian Head, or NSF Dahlgren. If Alternative B was selected the sanctuary education and outreach programming in cooperation with MCB Quantico staff would provide an indirect, permanent, localized, minor benefit that was less than significant (Table 22, row 23). No effect is expected for the other three facilities (Table 22, rows 24, 25, 26), given their location relative to Alternative B.

5.3.4 Impacts specific to Alternative C

NOAA expects the same impacts to water access and facilities and the four DoD facilities to be consistent between alternatives B and C. However, NOAA expects additional beneficial impacts to the maritime cultural landscape resources with Alternative C. Table 23 show the impacts specific to Alternative C.

Table 23: Summary of the environmental consequences of Alternative C.

Row #	Resource	Sub-category	Impact Type	Impact Duration	Geographic Extent	Magnitude / Intensity	Quality	Significance
7	Maritime cultural landscape resources	Within Historic District	Direct	Permanent	Localized	Major	Beneficial	Significant
8		Outside Historic District	Direct	Permanent	Localized	Major	Beneficial	Significant
17	Socio-economic resources	Water access & facilities	Indirect	Long Term	Localized	Moderate	Beneficial	Less than significant
23	Department of Defense facilities	MCB Quantico	Indirect	Permanent	Localized	Minor	Beneficial	Less than significant
24		Blossom Point	No impact	N/A	N/A	N/A	N/A	No effect
25		NSF Indian Head	No impact	N/A	N/A	N/A	N/A	No effect
26		NSF Dahlgren	No impact	N/A	N/A	N/A	N/A	No effect

Maritime cultural landscape resources

Within Historic District

If Alternative C is selected, nothing changes from the analysis of Alternative B. This benefit would be a permanent, major, beneficial, direct, and significant for the local area covered by the designation (Table 23, row 7).

Outside Historic District

Outside the Historic District the sanctuary management framework would provide uniform protection to the resources in Alternative C. The sanctuary would also include all currently known shipwrecks from all periods, as well as also protecting all other types and categories of tangible and intangible archaeological, historic, and cultural heritage within the sanctuary boundary. Collections without a permit currently allowed under the Maryland law (COMAR 34.04.03.03) would now be prohibited under federal law. This benefit would be a permanent, major, beneficial, direct, and significant for the local area covered by the designation (Table 23, row 8).

Socio-economic resources

Water access and facilities

If Alternative C was selected the area along the shoreline available for enhancing public access would be greater than Alternative B with the addition of the MCB Quantico marina. This marina would provide direct access to sanctuary waters, however its location is across the river from the majority of ship remains at Mallows Bay and a considerable distance upstream from those at Widewater. Thus, the potential to provide convenient access to sanctuary resources by non-motorized vessels, such as kayaks and canoes, is limited. The benefit from Alternative C for water access and facilities would be indirect, moderate, and less than significant (Table 23, row 17).

Department of Defense facilities

Quantico, Blossom Point, Indian Head, Dahlgren

The boundary of Alternative C would be adjacent to the MCB Quantico and the associated restricted area, although the boundary would not overlap NSF Indian Head, or Naval Surface Warfare Center - Dahlgren Division. There would be a small overlap with the western edge of BPRF's unexploded ordnance area. If Alternative C was selected, the sanctuary education and outreach programing in cooperation with MCB Quantico staff would provide an indirect, permanent, localized, minor benefit that was less than significant (Table 23, row 23). Specifically, the sanctuary education and outreach program could include information about the MCB Quantico restricted area, its boundaries, and markers to help keep boaters from encroaching into that area. No effect is expected for the other three facilities (Table 23, rows 24, 25, 26) given their location relative to Alternative C.

5.3.5 Impacts specific to Alternative D

NOAA expects the impacts to the maritime cultural landscape resources to be consistent between alternatives C and D because all the known sanctuary resources are located in Alternative C. However, NOAA expects additional benefits to water access and facilities and the four DoD facilities as described below. Table 24 shows the impacts specific to Alternative D.

Table 24: Summary of the environmental consequences of Alternative D.

Row #	Resource	Sub-category	Impact Type	Impact Duration	Geographic Extent	Magnitude / Intensity	Quality	Significance
7	Maritime cultural landscape resources	Within Historic District	Direct	Permanent	Localized	Major	Beneficial	Significant

8		Outside Historic District	Direct	Permanent	Localized	Major	Beneficial	Significant
17	Socio-economic resources	Water access & facilities	Direct	Long term	Localized	Moderate	Beneficial	Less than significant
23	Department of Defense facilities	MCB Quantico	Indirect	Permanent	Localized	Minor	Beneficial	Less than significant
24		Blossom Point	Indirect	Permanent	Localized	Minor	Beneficial	Less than significant
25		NSF Indian Head	Indirect	Permanent	Localized	Minor	Beneficial	Less than significant
26		NSF Dahlgren	Indirect	Permanent	Localized	Minor	Beneficial	Less than significant

Socio-economic resources

Water access and facilities

If Alternative D was selected, the sanctuary boundary would extend throughout a larger portion of the Potomac River and its tributaries, including the tidal waters of Mattawoman Creek, Nanjemoy Creek, and Port Tobacco River. Within the Alternative D boundary, there are three additional public boat ramps that could support the need for more public access to enhance recreation and tourism opportunities. These boat ramps are at Slavins Dock in Mattawoman Creek, Friendship Landing in Nanjemoy Creek, and Chapel Point SP in the Port Tobacco River (see Section 4.5.1 Figure 8). The availability of these boat ramps within the sanctuary boundary may help spread out the pressure on the single existing boat ramp available within alternatives B or C, the Mallows Bay Park boat ramp. In Alternative D, the establishment of a sanctuary would have direct, long-term, moderate, beneficial impacts to the water access sites and facilities in the Potomac River (Table 24, row 17) as sanctuary outreach materials help increase awareness of the access options.

Department of Defense facilities

Quantico, Blossom Point, Indian Head, Dahlgren

The larger boundary of Alternative D would be adjacent to the MCB Quantico and the associated restricted area, BPRF, and NSF Indian Head including the associated danger area. The sanctuary education and outreach program could include information about the NSF Indian Head danger area, its boundaries, and markers to help keep boaters from encroaching into that area. Although NSF Dahlgren is located outside the boundary of Alternative D, the NSF Dahlgren's Upper Danger Zone extends north of the Nice Bridge up to Port Tobacco Creek, which would overlap with the sanctuary boundary. The sanctuary education and outreach program could also provide information about this danger area to assist with compliance. If Alternative D was selected, the sanctuary education and outreach programing in cooperation with staff at the four facilities would provide an indirect, permanent, localized, minor benefit that would be less than significant (Table 24, rows 23, 24, 25, and 26).

5.3.6 Relative magnitude across alternatives

In addition to comparing the impacts common and unique to the action alternatives (B, C, and D), NOAA also compared the relative magnitude of the no action (A) and action alternatives (B, C, and D) for the

affected resources as shown in Table 25. NOAA does not anticipate any significant effects from the no action or proposed action alternatives.

Where there were differences in magnitude, the differences were generally small given the geographic differences (minimum of 18 square miles, maximum of 100 square miles).

Table 25: Comparison of the magnitude of the environmental consequences of all alternatives.

Row #	Resource	Sub-category	Detail of Sub-category	Alternative A (No Action)	Alternative B (Preferred)	Alternative C	Alternative D
	Area of alternative			0 square miles	18 square miles	52 square miles	100 square miles
	Number of ships			0	142	151	151
	Number of public water access points			0	4	6	12
1	Physical environment	Geology		Less than significant adverse effects since no change from current status.	Minor benefits from increased protection of the river-bottom structure created by ships.	Additional ships provide more, yet still minor, benefits for river-bottom structure created by ships.	Same as Alternative C, since there are no additional known ships in area added in Alternative D.
2		Water	Quality / quantity	No change from current status.	Minor negative impacts as a result of increased visitation impacting water quality. No changes in water quantity expected.	Slightly more impacts than in Alternative B since there's a larger area to visit. No changes in water quantity expected.	The same type of impacts as alternatives B and C are expected over a larger area that would be visited. No changes in water quantity expected.
3			Dynamics	No effect, since no change from current status.	No effect, since no impacts to water dynamics are expected.	No effect, since no impacts to water dynamics are expected.	No effect, since no impacts to water dynamics are expected.
4		Air Quality		No effect, since no change from current status.	Minor negative impacts as a result of increased visitation impacting air quality.	Slightly more impacts than in Alternative B since there's a larger area to visit.	The same type of impacts as alternatives B and C are expected over a larger area that would be visited.
5		Climate		No effect, since no change from current status.	Minor negative impacts as a result of increased visitation contributing to climate change.	Slightly more impacts than in Alternative B since there's a larger area to visit.	The same type of impacts as alternatives B and C are expected over a larger area that would be visited.
6		Noise		No effect, since no change from current status.	Minor negative impacts as a result of increased visitation impacting current noise levels.	Slightly more impacts than in Alternative B since there's a larger area to visit.	The same type of impacts as alternatives B and C are expected over a larger area that would be visited.
7	Maritime cultural landscape resources	Within Historic District		Negative effect because under the current status the resources	Resources would see a moderate benefit from NMSA regulatory	Same as Alternative B which includes	Same as Alternative B which includes the Historic District.

				have limited protection under NHPA, ARPA, and Maryland law.	and non-regulatory programs.	the Historic District.	
8		Outside Historic District		Negative effect because under the current status the resources have limited protection under Maryland law.	Resources outside the Historic District would not be in the sanctuary so they would only see indirect benefits that come from being adjacent to the sanctuary.	Resources would see a moderate direct benefit from NMSA regulatory and non-regulatory programs if designated.	Same as Alternative C which includes all known resources outside the Historic District.
9	Biological resources	Fisheries		No effect, since no change from current status.	Minor benefits from increased protection of ships to provide more habitat for fish species.	Additional ships provide more, yet still minor, benefits as protected habitat for fish species.	Same as Alternative C since there are no additional known ships in area added in Alternative D.
10		Protected species		No effect, since no change from current status.	Same as line 9 since all protected species are fish species.	Same as line 9 since all protected species are fish species.	Same as line 9 since all protected species are fish species.
11		Birds		No effect, since no change from current status.	Minor benefits from increased protection of ship structures above water provides continued habitat for birds.	Additional ships provide more, yet still minor, benefits as protected habitat for birds.	Same as Alternative C since there are no additional known ships in area added in Alternative D.
12		Terrestrial species		No effect, since no change from current status.	Minor impacts from increased protection of ship structures above water provides continued habitat for water dependent terrestrial species.	Additional ships provide more, yet still minor, benefits as protected habitat for terrestrial species.	Same as Alternative C since there are no additional known ships in area added in Alternative D.
13		Habitat	Tidal river	No effect, since no change from current status.	Minor indirect benefits from protecting river-bottom structure from further damage.	Additional ships would be protected providing more, yet still minor, benefits from additional protection for river-bottom structure.	Same as Alternative C since there are no additional known ships in area added in Alternative D.
14			Palustrine	No effect, since no change from current status.	Minor indirect benefits from protecting the river-bottom structure from further damage resulting in increased stability for larger ecosystem.	Additional ships would be protected providing more, yet still minor, benefits from additional protection for river-bottom structure supporting larger ecosystem.	Same as Alternative C since there are no additional known ships in area added in Alternative D.

15			Terrestrial	No effect, since no change from current status.	Minor indirect benefits from protecting the river-bottom structure from further damage resulting in increased stability for larger ecosystem.	Additional ships would be protected, providing more, yet still minor, benefits from additional protection for river-bottom structure supporting larger ecosystem.	Same as Alternative C since there are no additional known ships in area added in Alternative D.
16			EFH / critical habitat	No effect, since no change from current status.	Minor benefits from increased protection of ships to provide more EFH and critical habitat.	Additional ships provide more, yet still minor, benefits as EFH and critical habitat.	Same as Alternative C since there are no additional known ships in area added in Alternative D.
17	Socio-economic resources	Water access & facilities		Negative effect since no designation means losing the opportunity to draw additional visitors to the areas that would support or expand water access and facilities.	Beneficial effect from drawing additional visitors to the areas that would support or expand water access and facilities.	Slightly more benefits than in Alternative B due to two additional access points.	This alternative would provide the greatest benefit because the larger area would provide six more access points than Alternative C.
18		Recreational uses		Negative effect since no designation means losing the opportunity to draw additional visitors to the areas that would participate in recreational uses.	Beneficial effect from drawing additional visitors to the areas to participate in and support recreational uses.	Slightly more benefits than in Alternative B since there is a larger area for recreational uses.	This alternative would provide the greatest benefit because there is a much larger area for recreational uses.
19		Commercial uses		No effect, since no change from current status.	There may be minor beneficial impacts from protecting the ships that provide habitat to commercially important fish species. No impact is expected for commercial shipping.	There may be slightly more, but still minor, beneficial impacts from protecting the ships that provide habitat to commercially important fish species. No impact is expected for commercial shipping.	Same as Alternative C since there are no additional known ships in area added in Alternative D.
20		Tourism		Negative effect since no designation means losing the opportunity to boost tourism.	Beneficial effect from drawing additional visitors to the area to learn about the ships and enjoy recreation options.	Larger positive impacts than in Alternative B since includes all known ships and larger area to visit.	The largest of the same type of impacts expected in alternatives B and C since there's a much larger area for recreational uses.
21		Local economy		Negative effect since no designation means losing the opportunity to	Beneficial effect from drawing additional visitors to the area through tourism,	Larger positive impacts than in Alternative B since includes all known ships and	The largest of the same type of impacts expected in alternatives B and C since there's a much

				draw additional visitors to the areas that would support the wider economy.	research, and other programming that would add to the wider economy.	the larger area would distribute visitor spending over a wider area.	larger area to draw visitors where they could spend in the wider economy.
22		Passive economic use		No effect, since no change from current status.	Positive impact from protecting this special place.	A larger positive impact is expected from protecting all the known ships and a wider geographic area.	The largest benefit is expected since there is a much larger area included along with the known ships in Alternative C.
23	Department of Defense facilities	MCB Quantico		No effect, since no change from current status.	NOAA does not expect any direct impacts, positive or negative from proposed regulations. Minor indirect benefits from non-regulatory outreach and education programs help explain the work at the facility and the facility's restricted area.	Same as Alternative B since all action alternatives are adjacent to facility.	Same as Alternative B since all action alternatives are adjacent to facility.
24		Blossom Point		No effect, since no change from current status.	No effect, since Alternative B does not overlap with facility.	No effect, since Alternative C does not overlap with facility.	NOAA does not expect any direct impacts, positive or negative from proposed regulations. Minor indirect benefits from non-regulatory outreach and education programs help explain the facility's unexploded ordnance area.
25		NSF Indian Head		No effect, since no change from current status.	No effect, since Alternative B does not overlap with facility.	No effect, since Alternative C does not overlap with facility.	NOAA does not expect any impacts, positive or negative from proposed regulations. Minor indirect benefits from non-regulatory outreach and education programs help explain the facility's danger zone.
26		NSF Dahlgren		No effect, since no change from current status.	No effect, since Alternative B does not overlap with facility.	No effect, since Alternative C does not overlap with facility.	NOAA does not expect any impacts, positive or negative from proposed regulations. Minor indirect benefits from non-regulatory outreach and education programs help explain the facility's danger zone.

5.3.7 Cumulative impacts

The CEQ regulations (40 C.F.R. 1500) for implementing the provisions of NEPA define cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (CEQ 1997a). The regulations further define cumulative impacts as those that can result from individually minor but collectively significant actions that take place over a period of time. The CEQ guidance for considering cumulative effects states that NEPA documents “should compare the cumulative effects of multiple actions with appropriate national, regional, state, or community goals to determine whether the total effect is significant” (CEQ 1997).

Sanctuary designation can reasonably be expected to result in an increase in visitation. Because the management plan calls for active education and outreach activities to increase public awareness of the sanctuary, it is reasonable to expect that this proposed action is likely to result in increased visitation to the area. This could include an increase in vehicle traffic in the area, increased boat traffic on the water, a need to increase the number of access points along the shore, and increased pressure on infrastructure. Increased visitation could put the area at risk for increased waste on shore and in the water. An increase in visitation would also likely result in increase in spending at local businesses, including outfitters, restaurants, and local stores. Overall, the management and increased protection measures for cultural resources can be expected to result in beneficial impacts to those resources, and likely to benefit natural resources which depend upon the cultural resources as habitat.

In order to estimate the cumulative impacts of the proposed national marine sanctuary designation, NOAA considered past, present, and foreseeable future actions. Recent development activities have been limited in this relatively undeveloped area of the Potomac River so there are a limited number of past actions, and one planned action that NOAA is aware of in the area. These are described below.

In 2010, Maryland DNR purchased a portion of land adjacent to Mallows Bay and made it available to Charles County to create and manage Mallows Bay County Park, the main launch point for access to the historic shipwrecks. The park is located adjacent to Mallows Bay and development of the park added a boat launch used to access the area under consideration for sanctuary designation. In February 2011, the National Park Service finalized the comprehensive management plan and environmental assessment for the Captain John Smith Chesapeake National Historic Trail (CJSCNHT) that includes the area of the Potomac River under consideration for sanctuary designation. The trail interprets the history of the Chesapeake Bay and encourages visitors to explore the area on land and in the water. Looking forward for foreseeable future actions, Charles County is interested in exploring options to expand access for kayak tours in Mallows Bay County Park, while ensuring continued access to the boat launch for trailered boats. The Chesapeake Watershed Agreement of 2014 calls for adding 300 new public access sites to the Chesapeake Bay and throughout the watershed by 2025, with a strong emphasis on providing opportunities for boating, swimming, and fishing. It is anticipated that sanctuary designation would enable the enhancement of existing public access sites within sanctuary boundaries.

The actions that could contribute to cumulative impacts are described above; this information was compiled based on internal NOAA and partner agency input. Only those actions with potential to contribute to cumulative impacts are listed. These actions are similar in scope to the proposed action,

relate to river use activities, have similar types of impacts within the study area, and affect similar resources. This approach was taken to include both actions for which detailed descriptions and expected impacts are known, as well as actions that have less defined impacts but may contribute to regional impacts. Because the proposed sanctuary designation is a regulatory and management action rather than a specific development action, the cumulative effects are related primarily to area-wide management of maritime cultural heritage resources.

The protection, conservation, and education restoration efforts described under alternatives B, C, and D, when added to the Mallows Bay Park and the CJSNHT programs, would have a direct beneficial, long-term cumulative impact on cultural resources, and an indirect, beneficial, long-term cumulative impact on geology, aquatic resources, terrestrial resources, and threatened and endangered species within the region. There would be incremental benefits resulting from the implementation of alternatives B, C, or D, given the larger geographic area included in alternatives C and D. Incremental benefits to cultural resources would be expected to be major due to the impact of additional protections for these resources. Incremental benefits to natural resources are expected to be minor when combined with other federal and state programs which focus on those resources.

The expected increase in visitation and infrastructure use under alternatives B, C, and D, when added to the Mallows Bay Park and the CJSNHT programs, would have an indirect, minor adverse impact to water resources, air quality, climate, and noise resources. Adverse effects to water quality are expected to be minimized through education and outreach efforts as described in MPNMS Management Plan (see Appendix A). There would be incremental adverse effects resulting from the implementation of alternatives B, C, or D given the larger geographic area included in alternatives C and D. The incremental change resulting from the implementation of alternatives B, C, and D, would be expected to be minor when combined with other activities.

The expected increased visitation under alternatives B, C, and D, when added to programs at Mallows Bay Park and CJSNHT, would have minor beneficial cumulative impacts on water access and facilities, recreational and commercial uses, tourism, the local economy, and passive economic use of the region. The incremental change resulting from the implementation of alternatives B, C, or D, would be expected to be minor when combined with other federal and state programs as described. As a result, the cumulative impacts are anticipated to be minor.

No significant cumulative adverse effects from NOAA's proposed action alternatives are anticipated.

Table 26: Comparison of cumulative effects of all alternatives.

Row #	Resource	Sub-category	Detail of Sub-category	Alternative A (No Action)	Alternative B (Preferred)	Alternative C	Alternative D
	Area of alternative			0 square miles	18 square miles	52 square miles	100 square miles
	Number of ships			0	142	151	151
	Number of public water access points			0	4	6	12
1	Physical environment	Geology		Minor adverse due to	Minor cumulative benefit.	2x benefits of Alternative B	Same as Alternative C, no additional

				continued degradation of wrecks and destabilization of local geology		given double size, but still minor.	known ships added in Alternative D.
2		Water	Quality / quantity	No effect.	Minor negative impacts.	2x impacts of Alternative B given double size, but still minor.	4x impacts of Alternative B given size, but still minor.
3			Dynamics	No effect.	No effect.	No effect.	No effect.
4		Air Quality		No effect.	Minor negative impacts.	2x impacts of Alternative B given double size, but still minor.	4x impacts of Alternative B given size, but still minor.
5		Climate		No effect.	Minor negative impacts.	2x impacts of Alternative B given double size, but still minor.	4x impacts of Alternative B given size, but still minor.
6		Noise		No effect.	Minor negative impacts.	2x impacts of Alternative B given double size, but still minor.	4x impacts of Alternative B given size, but still minor.
7	Maritime cultural landscape resources	Within Historic District		Visible adverse effect due to continued degradation in the absence of additional protection.	Long-term major benefits from additional enforcement and non-regulatory strategies.	Same as Alternative B.	Same as Alternative B.
8		Outside Historic District		Visible adverse effect due to continued degradation in the absence of additional protection.	Area not included in Alternative B, but minor indirect benefits from being adjacent to the sanctuary.	Moderate direct benefits.	No additional shipwrecks, so same as Alternative C.
9	Biological resources	Fisheries		No effect.	Minor indirect benefits impacts from preservation of fish habitat.	2x benefits of Alternative B due to doubled area.	No additional shipwrecks, so same as Alternative C.
10		Protected species & critical habitat		No effect.	Minor indirect benefits impacts from preservation of fish habitat and designated critical habitat.	2x benefits of Alternative B due to increased number of shipwrecks.	No additional shipwrecks, so same as Alternative C.
11		Birds		No effect.	Minor indirect benefits impacts from preservation of bird habitat.	2x benefits of Alternative B due to increased number of shipwrecks	No additional shipwrecks, so same as Alternative C.
12		Terrestrial species		No effect.	Minor indirect benefits impacts from preservation of above-water habitat.	2x benefits of Alternative B due to increased number of shipwrecks	No additional shipwrecks, so same as Alternative C.
13		Habitat	Tidal river	Minor adverse due to continued degradation of wrecks and habitat.	Minor indirect benefits impacts from preservation of structure for ecosystems.	2x benefits of Alternative B due to increased number of shipwrecks	No additional shipwrecks, so same as Alternative C.

14			Palustrine	No effect.	Minor indirect benefits impacts from preservation of structure for ecosystems.	2x benefits of Alternative B due to increased number of shipwrecks.	No additional shipwrecks, so same as Alternative C.
15			Terrestrial	No effect.	Minor indirect benefits impacts from preservation of structure for ecosystems.	2x benefits of Alternative B due to increased number of shipwrecks.	No additional shipwrecks, so same as Alternative C.
16			EFH	No change from current status.	Minor indirect benefits impacts from preservation ships to provide more EFH.	2x benefits of Alternative B due to increased number of shipwrecks.	Same as Alternative C since there are no additional known ships in area added in Alternative D.
17	Socio-economic resources	Water access & facilities		No effect.	Minor indirect benefits from increased visitation.	2x benefits of Alternative B due to double area.	4x impacts of Alternative B given size.
18		Other recreational uses		No effect.	Minor indirect benefits from increased visitation.	2x benefits of Alternative B due to double area.	4x impacts of Alternative B given size.
19		Commercial uses		No effect.	Minor indirect benefits from protection of habitat for commercially important fish species.	2x benefits of Alternative B due to double area.	No additional shipwrecks, so same as Alternative C.
20		Tourism		No effect.	Minor benefits from increased visitation	2x benefits of Alternative B due to double area.	4x impacts of Alternative B given size.
21		Local economy		No effect.	Minor indirect benefits from increased visitation	2x benefits of Alternative B due to double area.	4x impacts of Alternative B given size.
22		Passive economic use		No effect.	Indirect benefits from protecting this special place.	2x benefits of Alternative B due to double area.	4x impacts of Alternative B given size.
23	Department of Defense facilities	MCB Quantico		No effect.	Minor indirect benefits.	Same as Alternative B.	Same as Alternative B.
24		Blossom Point		No effect.	No effect since Alternative B does not overlap with facility.	No effect since Alternative C does not overlap with facility.	Minor indirect benefits.
25		NSF Indian Head		No effect.	No effect since Alternative B does not overlap with facility.	No effect since Alternative C does not overlap with facility.	Minor indirect benefits.
26		NSF Dahlgren		No effect.	No effect since Alternative B does not overlap with facility.	No effect since Alternative C does not overlap with facility.	Minor indirect benefits.



Chapter 6

ADDITIONAL CONSIDERATIONS

6.1 CONSULTATION AND ENVIRONMENTAL COMPLIANCE

The following is a list of federal consultation and environmental regulations that apply to the proposed action, as well as a description of compliance by NOAA with applicable requirements.

6.1.1 Other procedural requirements under the NMSA

Under Section 303(b)(2) and 304(a)(2)(B)(ii) of the NMSA, NOAA is required to conduct a series of consultations with Congress, federal and state agencies, and other interested parties. Per these requirements, consultation letters were sent to coincide with the publication of this document and the proposed rulemaking to the following:

- U.S. House of Representatives Natural Resources Committee
- U.S. Senate Committee on Commerce, Science, and Transportation
- Department of Defense
- Department of State
- Department of Transportation
- Department of the Interior
- Environmental Protection Agency
- U.S. Coast Guard

Under Section 304(f)(1) of the NMSA, NOAA is also required to make certain findings relating to any proposal to designate a new national marine sanctuary. The general criteria for performing the Section 304(f) is published on the ONMS webpage on sanctuary designation at <https://sanctuaries.noaa.gov/management/designations.html>.

In January 2017 and concurrent with the publication of proposed rulemaking, draft management plan, and draft environmental impact statement, NOAA solicited public comments on the Section 304(f) preliminary findings for the proposed designation of Malloys Bay-Potomac River National Marine Sanctuary, which was published on the ONMS webpage for Malloys Bay-Potomac River at <https://sanctuaries.noaa.gov/malloys-potomac/>. NOAA did not receive any comments on the preliminary findings.

Based upon review of the elements in NMSA Section 304(f), NOAA has determined that the designation of Malloys Bay-Potomac River National Marine Sanctuary will not have a negative impact on the National Marine Sanctuary System and that sufficient resources exist to effectively implement sanctuary management plans. NOAA also determined that the requirement to complete site characterizations has been met. The final findings for NMSA Section 304(f) will be published concurrently with the final rule and posted on the ONMS webpage for the Malloys Bay-Potomac River sanctuary designation at <https://sanctuaries.noaa.gov/malloys-potomac/>.

6.1.2 Relation to existing laws and executive orders

NEPA requires that a discussion of the relation of the action to other existing laws and executive orders be included. The relation of this action to other legal requirements is discussed as follows:

Coastal Zone Management Act (CZMA)

The Coastal Zone Management Act (CZMA, 16 U.S.C. 1451) was enacted in 1972 to encourage coastal states, Great Lake states, and U.S. territories and commonwealths (collectively referred to as “coastal states” or “states”) to preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone. The CZMA is a voluntary program for states; currently, thirty-four coastal states have a federally approved coastal management program except Alaska, which voluntarily withdrew from the program in 2011. Section 307 of the CZMA is known as the “federal consistency” provision.

The federal consistency provision requires federal actions (inside or outside a state’s coastal zone) that affect any land or water use or natural resource of a state’s coastal zone, to be consistent with the enforceable policies of the state coastal management program (CMP). The term “effect on any coastal use or resource” means any reasonably foreseeable effect on any coastal use or resource resulting from the activity, including direct and indirect (cumulative and secondary) effects. The federal consistency regulations at 15 C.F.R. part 930 set forth detailed timeframes and procedures that must be followed carefully.

The two types of federal actions addressed in the federal consistency regulations that NOAA programs most frequently encounter are federal agency activities (15 C.F.R. part 930, subpart C), and federal license or permit activities (subpart D). In addition, subpart E of the regulations addresses outer continental shelf plans and subpart F applies to federal financial assistance provided to state and local governments. A federal action that will have reasonably foreseeable coastal effects, but which does not fall under 15 C.F.R. subpart D, subpart E, or subpart F should be treated as a federal agency activity under subpart C.

Federal agency activities (subpart C) are activities and development projects performed by a federal agency, or a contractor for the benefit of a federal agency. For federal agency development projects occurring inside a state’s coastal zone, the federal agency must submit a Consistency Determination to the state. For all other federal agency activities, inside or outside the coastal zone, the federal agency must submit a Consistency Determination to the state if the federal agency determines the activity may have reasonably foreseeable effects on the state’s coastal uses or resources. Federal agencies need to only prepare one Consistency Determination for the proposed action and not for individual authorizations or reviews associated with the proposed action, such as NEPA documents, ESA consultations, federal permits the agency may need, etc. Federal agency activities must be consistent to the maximum practicable with the enforceable policies of the state’s CMP. If there are no reasonably foreseeable effects, the federal agency may be required to provide a Negative Determination to the state. See 15 C.F.R. 930.

MPNMS is located in the Maryland coastal zone of the Potomac River. MPNMS is also adjacent to the commonwealth of Virginia’s coastal zone. On February 16, 2018, NOAA sent two separate letters and provided copies of the proposed rule and supporting documents for MPNMS to the Maryland Department of the Environment (MDE), Coastal Zone Management (CZM) Program, and the Virginia CZM Program

within the Department of Environmental Quality (DEQ), for federal consistency review and concurrence under the CZMA. On April 19, 2018, the MDE concurred with NOAA's consistency determination that the proposed action is consistent with the enforceable policies of the Maryland CZM Program. That same day, the DEQ sent a separate concurrence letter to NOAA concluding that the project is consistent to the maximum extent practicable with the enforceable policies of the Virginia CZM Program, provided that all applicable permits and approvals are obtained, and the project is operated in accordance with all applicable federal, state, and local laws and regulations. No federal or state permits are required for sanctuary designation, and NOAA has consulted and obtained all other required approvals. MPNMS will be operated in accordance with applicable laws and regulations.

Endangered Species Act (ESA)

The Endangered Species Act (ESA) of 1973 as amended (16 U.S.C. 1531, *et seq.*), provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend. The ESA directs all federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the act. NMFS works with USFWS to manage ESA-listed species. Generally, NMFS manages marine species, while USFWS manages land and freshwater species.

A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become an endangered species within the foreseeable future. When listing a species as threatened or endangered, NMFS or FWS also designate critical habitat for the species to the maximum extent prudent and determinable. 16 U.S.C. 1533(a)(3).

Section 7(a)(2) of the ESA states that each federal agency shall, in consultation with the secretary, insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. In fulfilling these requirements, each agency must use the best scientific and commercial data available. The consultation process is further developed in regulations promulgated at 50 C.F.R. Part 402.

The ESA requires action agencies to consult or confer with the services when there is discretionary federal involvement or control over the action. When a federal agency's action "may affect" a protected species, that agency is required to consult formally with NMFS or USFWS, depending upon the endangered species, threatened species, or designated critical habitat that may be affected by the action (50 C.F.R. 402.14 (a)). Federal agencies are exempt from this general requirement if they have concluded that an action "may affect, but is not likely to adversely affect" endangered species, threatened species, or designated critical habitat and NMFS or the USFWS concurs with that conclusion (50 C.F.R. 402.14(b)). This is commonly referred to as "informal consultation." This finding can be made only if ALL of the reasonably expected effects of the proposed action will be beneficial, insignificant, or discountable. An action agency shall confer with the services if the action is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat.

Most consultations are conducted informally with the federal agency or a designated non-federal representative. When the biological assessment or other information indicates that the action has no likelihood of adverse effect (including evaluation of effects that may be beneficial, insignificant, or discountable), the services provide a letter of concurrence, which completes informal consultation. The

agency is not required to prepare a biological assessment for actions that are not major construction activities, but, if a listed species or critical habitat is likely to be affected, the agency must provide the services with an account of the basis for evaluating the likely effects of the action.

Action agencies initiate formal consultation through a written request to the services. To comply with the Section 7 regulations, the initiation package is submitted with the request for formal consultation and must include the materials listed in 50 C.F.R. 402.14(c). If a biological assessment is required, formal consultation cannot be initiated until the biological assessment is completed. The contents of biological assessments prepared pursuant to the act are largely at the discretion of the action agency although the regulations provide recommended contents (50 C.F.R. 402.12(f)). Formal consultations determine whether a proposed agency action(s) is likely to jeopardize the continued existence of a listed species (jeopardy) or destroy or adversely modify critical habitat (adverse modification), and they are documented by a biological opinion. They also determine and authorize the amount or extent of anticipated incidental take in an incidental take statement, identify reasonable and prudent alternatives, if any, when an action is likely to result in jeopardy or adverse modification, and identify ways the action agencies can help conserve listed species or critical habitat when they undertake an action.

In addition, ESA Section 10(a)(1)(A) authorizes the NMFS and USFWS to issue permits for scientific purposes or to enhance the propagation or survival of listed species. The permitted activity must not operate to the disadvantage of the species and must be consistent with the purposes and policy set forth in Section 2 of the act. Section 10(a)(1)(A) permits are also required:

- when a reasonable and prudent alternative calls for scientific research that will result in take of the species (this includes scientific research carried out by the services);
- when the agency, applicant, or contractor plans to carry out additional research not required by an incidental take statement that would involve direct take (if this is part of the action and direct take is contemplated, a permit is not needed); and
- for species surveys associated with biological assessments (usually developed during informal consultation) that result in take, including harassment.

Potential impacts to threatened and endangered species are described in Section 5.3.2 above; NOAA believes the preferred alternative may result in minor benefits to listed species. Based on this evaluation, ONMS believes implementation of the proposed alternatives identified in this FEIS is not likely to adversely affect any species listed as threatened or endangered, or habitats critical to such species, under the ESA. On August 25, 2017, ONMS submitted a Biological Assessment to NMFS and requested initiation of an informal consultation on this action. On October 4, 2017, NMFS notified ONMS that after review of the biological assessment and other available information, they determined that there will be no effects to any ESA-listed species or designated critical habitat and thus there was no need for consultation.

Fish and Wildlife Coordination Act, as amended in 1964

The Fish and Wildlife Coordination Act requires that all federal agencies consult with NMFS, USFWS, and state wildlife agencies when proposed actions might result in modification of a natural stream or body of water. Federal agencies must consider effects that these projects would have on fish and wildlife development and provide for improvement of these resources. The Fish and Wildlife Coordination Act

allows NMFS to provide comments to the U.S. Army Corps of Engineers during review of projects under Section 404 of the Clean Water Act (concerning the discharge of dredged materials into navigable waters) and Section 10 of the Rivers and Harbors Act of 1899 (obstructions in navigable waterways). NMFS comments provided under the Fish and Wildlife Coordination Act are intended to reduce environmental impacts to migratory, estuarine, and marine fisheries and their habitats. NOAA does not believe the proposed action will result in a modification of a natural stream or body of water. Rather, the proposed action is anticipated to benefit fish and wildlife development.

Magnuson-Stevens Fishery Conservation and Management Act (MSA)

In 1976, Congress passed the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801, *et seq.*). The MSA fosters long-term biological and economic sustainability of the nation's marine fisheries out to 200 nautical miles from shore. Key objectives of the MSA are to prevent overfishing, rebuild overfished stocks, increase long-term economic and social benefits, and ensure a safe and sustainable supply of seafood. The MSA promotes domestic commercial and recreational fishing under sound conservation and management principles and provides for the preparation and implementation, in accordance with national standards, of fishery management plans.

EFH describes all waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity. The consultation requirements of Section 305(b) of the MSA (16 U.S.C. 1855(b)) provide that:

- Federal agencies must consult with the secretary on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- the secretary shall provide recommendations (which may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH) to conserve EFH to federal or state agencies for activities that would adversely affect EFH; and
- the federal action agency must provide a detailed response in writing to the NMFS and to any council commenting under Section 305(b)(3) of the MSA within 30 days after receiving an EFH Conservation Recommendation.

“Adverse effect” is defined in the regulations as: “any impact that reduces quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions” 50 C.F.R. 600.910.

The trigger for EFH consultation is a federal action agency's determination that an action or proposed action, funded, authorized, or undertaken by that agency may adversely affect EFH. If a federal agency makes such a determination, then EFH consultation is required. If a federal action agency determines that an action does not meet the may adversely affect EFH test (i.e., the action will not adversely affect EFH), no consultation is required.

The Department of Commerce's guidelines for implementing the EFH coordination and consultation provisions of the MSA are at 50 C.F.R. 600.905 – 600.930. These guidelines provide definitions and procedures for satisfying the EFH consultation requirements, that include the use of existing

environmental review processes, General Concurrences, programmatic consultations, or individual EFH consultations (i.e., abbreviated, expanded) when an existing process is not available. The EFH guidelines also address coordination with the Fishery Management Councils (councils), NMFS EFH Conservation Recommendations to federal and state agencies, and council comments and recommendations to federal and state agencies.

Potential impacts to EFH are described in Section 5.3.2 above. Based on this evaluation, ONMS believes implementation of the proposed action identified in this FEIS is not likely to adversely affect EFH for summer flounder (*Paralichthys dentatus*) and bluefish (*Pomatomus saltatrix*). The proposed alternatives may result in indirect benefits to EFH in the Potomac River as described in Section 5.3.2 above. On October 24, 2017, ONMS submitted an EFH assessment to NMFS. On November 6, 2017, NMFS notified ONMS that they concurred with the finding that this designation will not adversely affect EFH.

Marine Mammal Protection Act of 1972

The Marine Mammal Protection Act (MMPA) of 1972 (16 U.S.C. 1361 *et seq.*), as amended, prohibits, with certain exceptions, the “take” of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. The MMPA defines “take” as: “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal” 16 U.S.C. 1362. Harassment means any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering, but does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B harassment). 16 U.S.C. 1362,⁸ 1362⁹.

Section 101(a)(5)(A-D) of the MMPA provides a mechanism for allowing, upon request, the “incidental,” but not intentional, taking, of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing or directed research on marine mammals) within a specified geographic region. The NMFS Office of Protected Resources (OPR) processes applications for incidental takes of small numbers of marine mammals. Authorization for incidental takes may be granted if NMFS finds that the taking would be of small numbers, have no more than a “negligible impact” on those marine mammal species or stocks, and not have an “unmitigable adverse impact” on the availability of the species or stock for “subsistence” uses. NMFS’ issuance of an incidental take authorization also requires NMFS to make determinations under NEPA and Section 7 of the ESA.¹⁰

The purpose of issuing incidental take authorizations (ITAs) is to provide an exemption to the take prohibition in the MMPA, and to ensure that the action complies with the MMPA and NMFS’s implementing regulations. ITAs may be issued as either: 1) regulations and associated Letters of

⁸ “Harassment” is defined by Level A Harassment, which has the potential to injure a marine mammal or marine mammal stock in the wild; and Level B Harassment which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering

⁹ <http://www.nmfs.noaa.gov/pr/dontfeedorharass.htm>

¹⁰ http://www.westcoast.fisheries.noaa.gov/protected_species/marine_mammals/mmpa_esa.html

Authorization (LOAs); or 2) Incidental Harassment Authorizations (IHAs). An IHA can only be valid for one year and LOAs can be valid for up to five consecutive years. An IHA may be issued when the action has the potential to result in harassment only (Level B Harassment, i.e., injury or disturbance). If the action has the potential to result in serious injury or mortality, or to result in harassment only and is planned for multiple years, then an IHA may not be issued, but an LOA and regulations may be issued if NMFS makes the required findings.

In addition, NMFS can in some circumstances authorize directed take of marine mammals through the following types of permits:

- Scientific Research Permit
- General Authorization for Scientific Research
- Public Display Permit
- Commercial or Educational Photography Permit

Due to the absence of marine mammals in the area of the Potomac River considered in the alternatives, NOAA does not believe that the proposed action has the potential to result in the take, injury, or harassment of any species protected under the MMPA.

Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 701-719c; MBTA) implements the United States' commitment to bilateral treaties, or conventions, with Great Britain, Canada, Japan, Russia, and Mexico for the protection of shared migratory bird resources. The MBTA establishes that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior. Take is defined in regulations as: "pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." The MBTA protects over 800 species of birds that occur in the United States, and the list of migratory bird species protected by the MBTA are set forth in 50 C.F.R. 10.13. U.S. Fish and Wildlife Service issues permits for scientific collecting, banding and marking, falconry, raptor propagation, depredation, import, export, taxidermy, waterfowl sale and disposal, and special purposes. The service has also developed, and continues to develop, voluntary guidance that help project proponents reduce incidental take of migratory birds. <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents.php>

Osprey are known to build their nests atop many of the shipwrecks, as well as on other perches along the shoreline of the proposed national marine sanctuary boundary alternatives. Great blue heron also nest in the mudflats. Both bird species are protected under the MBTA. The designation of the proposed national marine sanctuary by NOAA will have no adverse impacts on migratory birds, but may (as a result of protecting the shipwrecks that osprey frequently nest atop) have beneficial impacts on the migratory birds by protecting nesting and perching habitat.

National Historic Preservation Act of 1966

Section 106 of the NHPA (54 U.S.C. 300101 *et seq.*) requires federal agencies to take into account the effects of their undertakings on historic properties in accordance with regulations issued by the ACHP at

36 C.F.R. part 800. The regulations require that federal agencies consult with states, tribes, and other interested parties (consulting parties) when making their effect determinations.

The regulations establish four basic steps in the NHPA 106 process: determine if the undertaking is the type of activity that could affect historic properties, identify historic properties in the area of potential effects, assess potential adverse effects, and resolve adverse effects.

The first step in the process is for the responsible federal agency to determine whether the undertaking is a type of activity that could affect historic properties. Undertakings consist of any project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; those requiring a federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency. Historic properties are properties that are included in the National Register of Historic Places or that meet the criteria for the National Register. If so, the agency must identify the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO) to consult with during the process.

<http://www.achp.gov/shpo.html>. The agency should also plan to involve the public, and identify other potential consulting parties. Consulting parties may include Indian tribes and Native Hawaiian organizations, local governments, permit or license applicants, and interested members of the public. If the agency determines that it has no undertaking, or that the agency's undertaking is a type of activity that has no potential to affect historic properties, the agency has no further Section 106 obligations.

If the agency's undertaking could affect historic properties, the agency must identify historic properties in the area of potential effects. If the agency finds that no historic properties are present or affected, it provides documentation to the appropriate SHPO/THPO and, barring any objection in 30 days, proceeds with its undertaking.

If the agency finds that historic properties are present, it proceeds to assess possible adverse effects, in consultation with the SHPO/THPO. If the parties agree that there will be no adverse effect, the agency proceeds with the undertaking and any agreed-upon conditions. If they find that there is an adverse effect, or if the parties cannot agree and ACHP determines within 15 days that there is an adverse effect, the agency begins consultation to seek ways to avoid, minimize, or mitigate the adverse effects.

The agency consults to resolve adverse effects with the SHPO/THPO and others, who may include Indian tribes and Native Hawaiian organizations, local governments, permit or license applicants, and members of the public. ACHP may participate in consultation when there are substantial impacts to important historic properties, when a case presents important questions of policy or interpretation, when there is a potential for procedural problems, or when there are issues of concern to Indian tribes or Native Hawaiian organizations.

Consultation usually results in a Memorandum of Agreement (MOA), which outlines agreed-upon measures that the agency will take to avoid, minimize, or mitigate the adverse effects. In some cases, the consulting parties may agree that no such measures are possible, but that the adverse effects must be accepted in the public interest. The ACHP provides helpful checklists on its website for drafting and reviewing agreements.

If consultation proves unproductive, the agency or the SHPO/THPO, or ACHP itself, may terminate consultation. If a SHPO terminates consultation, the agency and ACHP may conclude an MOA without SHPO involvement. However, if a THPO terminates consultation and the undertaking is on or affecting historic properties on tribal lands, ACHP must provide its comments. The agency head must take into account ACHP's written comments in deciding how to proceed.

The Maryland SHPO, which implements Section 106 of the NHPA, is located in the MHT Office of the Maryland Department of Planning. NOAA does not believe this action will cause any adverse impacts to historic or cultural resources as a result of any of the alternatives presented in this FEIS. In March 2017, ONMS sent a letter to Maryland SHPO requesting concurrence on that finding. In a June 19, 2017 letter to ONMS, SHPO concurred that sanctuary designation would have no adverse effect on historic properties.

NOAA invited state recognized tribes to be consulting parties under Section 106 of the NHPA (54 U.S.C. 306108), pursuant to 36 C.F.R. Section 800.2. On January 3, 2017, NOAA sent a letter to the Piscataway Conoy Confederacy and Sub-Tribes and the Piscataway Indian Nation, both located in Maryland, inviting them to consult on the proposed designation. NOAA contacted each of the tribes again on March 2, 2017 and on November 3, 2017. Although NOAA received no written response to these communications, members of the Piscataway Conoy Confederacy and Sub-Tribes participated in local community events related to the proposed sanctuary and on March 7 and March 9, 2017, offered verbal comments related to the proposed sanctuary. On March 22, 2017, the secretary of the Patowomeck Tribe of Virginia submitted written comments on the proposed designation. On October 16, and November 20, 2017, ONMS contacted the Patowomeck Tribe of Virginia and invited them to discuss their relationship to the proposed sanctuary. During a phone conversation on November 29, 2017, Chief John Lightner offered no present-day concerns relative to the proposed sanctuary and he expressed interest in learning more about opportunities to engage directly with the sanctuary on topics related to interpreting the heritage of the Patowomeck Tribe of Virginia. ONMS contacted Chief Lightner again via email and phone on March 9, 2018, via email on April 17, 2018, and via phone on April 23, 2018 soliciting additional written comments. However, NOAA received no additional written response to these communications. ONMS looks forward to working with the Piscataway Conoy Confederacy and Sub-Tribes, the Piscataway Indian Nation, and the Patowomeck Tribe of Virginia.

Regulatory Flexibility Act (RFA)

The RFA, as amended and codified at 5 U.S.C. 601 *et seq.*, requires an agency to prepare a regulatory flexibility analysis of any rule subject to the notice and comment rulemaking requirements under the Administrative Procedure Act (5 U.S.C. 553) or any other statute, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Under Section 605(b) of the RFA, however, if the head of an agency (or his or her designee) certifies that a rule will not have a significant impact on a substantial number of small entities, the statute does not require the agency to prepare a regulatory flexibility analysis. Pursuant to Section 605(b), the Chief Counsel for Regulation, Department of Commerce, submitted a memorandum to the Chief Counsel for Advocacy, Small Business Administration, certifying that original proposed rule would not have a significant impact on a substantial number of small entities. The rationale for that certification was set forth in the notice of proposed rulemaking and the final rule.

Executive Order 12866 Cost-benefit Analysis

Under Executive Order 12866, if a rule is determined to be significant, then a socioeconomic impact study (i.e., assessment of the costs and benefits of the regulatory action) must be conducted. Under Executive Order 12866 a regulatory action is significant if the rule may:

- have an annual effect on the economy of \$100 million or more or adversely affecting in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities;
- create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- materially alter the budgetary impacts of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or
- raises novel legal or policy issues arising out of legal mandates, the president's priorities, or the principles set forth in this Executive Order.

NOAA has concluded that the final rule analyzed in this FEIS is not significant under E.O. 12866.

Executive Order 13132 Federalism

Under Executive Order 13132, each agency must consult, to the extent practicable and permitted by law, with state and local officials early in the process of developing regulations. These consultations should seek comment on the compliance costs or preemption, as appropriate to the nature of the rulemaking under development. NOAA has concluded that this regulatory action does not have federalism implications sufficient to warrant preparation of a federalism assessment under Executive Order 13132 because NOAA supplements and complements state and local laws under the NMSA.

Executive Order 13175 Consultation and Coordination with Indian Tribal Governments

Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments," requires federal agencies to establish procedures for meaningful consultation and coordination with tribal officials in the development of federal policies that have tribal implications. NOAA implements E.O. 13175 through the "NOAA 13175 Policy." Pursuant to the policy, NOAA offers affected federally-recognized tribes government-to-government consultation at the earliest practicable time it can reasonably anticipate that a proposed policy or initiative may have tribal implications. "Proposed policies" that may have tribal implications include regulations, legislative comments, proposed legislation, and other policy statements or actions. The policy provides guidance and procedures designed to ensure that NOAA effectively and consistently conducts required government-to-government consultations with federally-recognized tribes. If a proposed action may have tribal implications, the office proposing the action should, at the earliest time practicable, review the NOAA 13175 Policy to determine whether tribal consultation should be initiated. The NOAA 13175 Policy is available here:

<http://www.legislative.noaa.gov/policybriefs/NOAATribalconsultationhandbook2016.pdf>. Information on federally-recognized tribes is provided by the Department of Interior and available here:

https://www.bia.gov/tribalmapping/DataDotGovSamples/tld_map.htm

Executive Order 13175 provides the following policymaking criteria:

- (a) Agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the federal government and Indian tribal governments.
- (b) With respect to federal statutes and regulations administered by Indian tribal governments, the federal government shall grant Indian tribal governments the maximum administrative discretion possible.
- (c) When undertaking to formulate and implement policies that have tribal implications, agencies shall:
 - (1) encourage Indian tribes to develop their own policies to achieve program objectives;
 - (2) where possible, defer to Indian tribes to establish standards; and
 - (3) in determining whether to establish federal standards, consult with tribal officials as to the need for federal standards and any alternatives that would limit the scope of federal standards or otherwise preserve the prerogatives and authority of Indian tribes.

In consulting with tribes, the executive order requires that:

- (a) Each agency shall have an accountable process to ensure meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.
- (b) To the extent practicable and permitted by law, no agency shall promulgate any regulation that has tribal implications, that imposes substantial direct compliance costs on Indian tribal governments, and that is not required by statute, unless:
 - (1) funds necessary to pay the direct costs incurred by the Indian tribal government or the tribe in complying with the regulation are provided by the federal government; or
 - (2) the agency, prior to the formal promulgation of the regulation:
 - (A) consulted with tribal officials early in the process of developing the proposed regulation;
 - (B) in a separately identified portion of the preamble to the regulation as it is to be issued in the Federal Register, provides to the director of OMB a tribal summary impact statement, which consists of a description of the extent of the agency's prior consultation with tribal officials, a summary of the nature of their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of tribal officials have been met; and
 - (C) makes available to the director of OMB any written communications submitted to the agency by tribal officials.

(c) To the extent practicable and permitted by law, no agency shall promulgate any regulation that has tribal implications and that preempts tribal law unless the agency, prior to the formal promulgation of the regulation:

(1) consulted with tribal officials early in the process of developing the proposed regulation;

(2) in a separately identified portion of the preamble to the regulation as it is to be issued in the Federal Register, provides to the director of OMB a tribal summary impact statement, which consists of a description of the extent of the agency's prior consultation with tribal officials, a summary of the nature of their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of tribal officials have been met; and

(3) makes available to the director of OMB any written communications submitted to the agency by tribal officials.

(d) On issues relating to tribal self-government, tribal trust resources, or Indian tribal treaty and other rights, each agency should explore and, where appropriate, use consensual mechanisms for developing regulations, including negotiated rulemaking.

There are no federally recognized tribes in the immediate area of this proposed action for consultation under Executive Order 13175. However, NOAA invited state recognized tribes to be consulting parties under Section 106 of the NHPA (54 U.S.C. 306108), pursuant to 36 C.F.R. Section 800.2.

Executive Order 13795 Future Offshore Energy Potential Assessment

On April 28, 2017, Executive Order 13795 - Implementing an America-First Offshore Energy Strategy was signed by the president. Section 4(a) of E.O. 13795 requires the Secretary of Commerce (acting through NOAA) to receive from the Department of the Interior (DOI) a full accounting of the energy or mineral resource potential of any area proposed for sanctuary designation or expansion, including information on the potential impact the proposed designation or expansion will have on the development of those resources.

On December 22, 2016, NOAA sent DOI a letter providing notice of the NOAA's proposal to designate MPNMS pursuant to the NMSA (16 U.S.C. §§ 1431 et seq.). Although NOAA believes that the proposed sanctuary does not fall within DOI's leasing authorities pursuant to the Outer Continental Shelf Lands Act, NOAA requested in a subsequent letter dated April 11, 2018 that DOI evaluate the energy and mineral resource potential and impact of this proposed sanctuary designation. On May 7, 2018, DOI responded to NOAA's letter confirming that lands underlying the proposed sanctuary are state lands and thus are not managed by DOI and that DOI has no plans for energy or mineral resource development in the area. DOI further stated: 1) Alternatives C and D fall along the periphery of one Assessment Unit of the Energy Resources Program with very small energy potential, 2) information on deposits of heavy mineral sands bearing titanium and zirconium and other mineral resources were lacking and unlikely to be economically viable; and 3) the economic potential for other onshore sand and gravel resources were not known. Consequently, the proposed designation will not impact the development of energy or mineral resources in the Malloes Bay area.

6.2 ENVIRONMENTAL JUSTICE

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires a federal agency to analyze the effects of proposed programs, policies, and activities on minority and low-income populations, including Indian tribes. Section 1-101 of this Executive Order provides that “to the greatest extent practicable and permitted by law, . . . each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations...” NOAA has taken steps to integrate environmental justice considerations into its programs, policies, and activities when required by NEPA. Additional guidance on incorporating environmental justice into the NEPA process may be found at https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf.

See also U.S. Department of Commerce Environmental Justice Strategy (rev. 2011): http://www.osec.doc.gov/opog/OG/Archive/sites/default/files/DOC_Environmental_Justice_Strategy.pdf.

None of the alternatives described in this document or their cumulative effects would result in any disproportionate negative impacts on any minority or low-income population. Rather, the proposed action is expected to result in long-term or permanent beneficial impacts by protecting maritime cultural heritage resources, which may provide employment opportunities and result in improved ecosystem services to nearby inhabitants through the protection of the habitat provided by the resource. Minority and low-income populations may benefit from planning efforts that seek to integrate communities into sanctuary management planning.

6.3 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires consideration of the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity. The short-term uses of the environment relating to each of the alternatives would improve the health and quality of the environment by protecting the maritime cultural heritage resources that provide habitat for living resources through (1) regulations prohibiting damaging the maritime cultural heritage resources; (2) providing a mechanism through the NMSA to respond to hazardous spills that damage the maritime cultural heritage resources; and (3) monitoring human activities through regulations and non-regulatory programs that incorporate community involvement in the stewardship of sanctuary maritime cultural heritage resources. NOAA expects an increase in the number of visitors to the area as a results of the proposed sanctuary designation. Increase visitation may increase the establishments of supporting infrastructure and business such as roads, gas stations, convenience stores, restaurants, etc. over time. However, NOAA anticipates that any growth would be less than significant as a result of the proposed action. Long-term productivity derived from the alternatives is based on the goals of the sanctuary and the

proposed management actions to achieve the goal of long-term protection of the maritime cultural heritage resources that would preserve the living resource habitat. These proposed actions include action plans related to resource protection, recreation and tourism, education, science and research, infrastructure, and operations. Benefits to both short-term uses and long-term productivity based on implementation of sanctuary designation and management actions are proportional to the number of maritime cultural heritage resources that provide habitat encompassed within the area of each alternative.

6.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires an analysis of the extent to which the proposed project's primary and secondary effects would commit nonrenewable resources to uses that future generations would be unable to reverse. The alternatives presented in this FEIS would require minor commitments of both renewable and nonrenewable energy and material resources for the management and research activities associated with the sanctuary. Nonrenewable resources that would be used during management and research activities include fuel, water, power, and other resources necessary to maintain and operate vessels and workspace associated with the sanctuary. The proposed action will not result in adverse permanent change to the natural resources of the sanctuary.

Index

Advisory Council (SAC): 36, 43, 47, 49, 74, 160, 166, 172, 175, 187, 191, 193, 194, 197, 202, 203, 204, 205, 213, 228, 232, 235, 236, 255, 270, 271, 273

Biological resources: 87, 125, 126, 128, 129, 131, 139, 144

Blossom Point Research Facility (BPRF): 70, 115, 117, 118, 135, 136, 137, 226, 268, 304, 305, 306, 307

Charles County: 4, 5, 17, 19, 21, 22, 25, 29, 30, 33, 34, 36, 37, 38, 42, 43, 52, 55, 56, 57, 63, 68, 70, 74, 76, 80, 81, 82, 86, 98, 99, 100, 101, 102, 104, 106, 107, 117, 118, 124, 134, 142, 162, 163, 165, 166, 167, 168, 169, 171, 172, 174, 175, 178, 181, 182, 183, 184, 185, 192, 193, 194, 196, 199, 202, 204, 205, 212, 213, 216, 220, 224, 225, 226, 227, 228, 230, 231, 234, 235, 236, 237, 242, 243, 244, 245, 246, 247, 248, 249, 254, 255, 258, 262, 264, 266, 267, 268, 269, 270, 271, 282, 283, 289, 290

Commercial fishing: 35, 38, 39, 61, 106, 121, 122, 132, 133, 151, 167, 205, 222, 264, 274, 275,

Department of Defense (DoD): 71, 72, 75, 115, 116, 122, 127, 128, 133, 134, 135, 136, 137, 141, 145, 146, 162, 163, 170, 215, 226, 227, 247, 250, 251, 257, 269, 284, 291, 292

Management plan (FMP/DMP): 4, 5, 20, 24, 25, 27, 29, 33, 36, 56, 71, 142, 143, 146, 150, 165, 168, 170, 172, 175, 192, 193, 195, 197, 202, 203, 204, 212, 215, 216, 217, 218, 220, 221, 222, 223, 224, 225, 226, 227, 228, 232, 235, 236, 237, 238, 241, 243, 246, 249, 254, 255, 257, 258, 259, 260, 263, 264, 265, 266, 267, 268, 269, 270, 272, 283, 284, 291

Marine Corps Base Quantico (MCB Quantico): 65, 115, 116, 117, 128, 134, 135, 136, 137, 141, 145, 226, 268, 311

Maritime cultural landscape: 63, 75, 82, 86, 126, 133, 134, 135, 136, 138, 144, 164, 168, 187

Maryland Department of Natural Resources (Maryland DNR): 17, 24, 52, 74, 88, 89, 90, 91, 96, 97, 98, 103, 104, 105, 106, 121, 142, 161, 163, 166, 172, 173, 174, 181, 204, 205, 221, 225, 226, 267

Maryland Historical Trust (MHT): 17, 36, 38, 39, 40, 41, 52, 54, 66, 74, 126, 154, 161, 166, 172, 173, 174, 204, 239, 244, 245

National Historic Preservation Act (NHPA): 4, 20, 23, 31, 37, 41, 42, 47, 48, 55, 66, 71, 126, 127, 139, 152, 153, 154, 157, 173, 176, 188, 204, 213, 214, 221, 229, 245, 246, 249, 256, 263, 272, 273, 274

National Marine Sanctuaries Act (NMSA): 2, 19, 20, 23, 26, 27, 28, 29, 31, 33, 36, 37, 39, 41, 42, 43, 45, 46, 47, 48, 49, 50, 66, 70, 71, 72, 73, 123, 126, 127, 134, 138, 139, 146, 155, 157, 158, 166, 168, 169, 170, 171, 175, 176, 177, 193, 194, 211, 213, 214, 218, 219, 220, 221, 223, 224, 226, 228, 229, 230, 232, 233, 235, 236, 237, 238, 240, 241, 243, 244, 245, 246, 247, 250, 251, 252, 253, 255, 256, 260, 261, 262, 263, 266, 267, 269, 270, 271, 272, 272, 273, 278, 284, 289, 291, 292

Naval Support Facility Dahlgren (NSF Dahlgren): 115, 119, 120, 128, 134, 135, 137, 141, 145, 226, 268, 307, 308, 309, 310, 311

Naval Support Facility Indian Head (NSF Indian Head): 70, 118, 128, 134, 135, 136, 137, 141, 145, 226, 268, 307, 308, 309, 310, 311

Physical environment: 75, 125, 126, 127, 129, 130, 138, 143

Recreational fishing: 89, 100, 104, 132, 150, 173, 221, 222, 226, 227, 229, 237, 263, 264, 268, 269, 271, 274

Socioeconomic resources: 100, 127

State of Maryland: 4, 5, 19, 21, 22, 23, 25, 29, 32, 33, 35, 36, 37, 38, 39, 40, 42, 50, 52, 54, 56, 57, 63, 66, 69, 74, 125, 126, 165, 166, 168, 169, 171, 172, 173, 174, 175, 176, 177, 181, 182, 183, 184, 185, 192, 193, 194, 196, 198, 199, 202, 204, 206, 212, 213, 216, 220, 221, 222, 224, 228, 230, 231, 234, 235, 237, 239, 242, 243, 245, 246, 247, 248, 249, 250, 254, 255, 256, 258, 262, 263, 264, 266, 270, 271, 275, 282, 283, 290, 291

Virginia: 5, 21, 22, 23, 29, 32, 34, 53, 55, 57, 61, 63, 65, 66, 67, 68, 69, 75, 84, 86, 87, 89, 90, 91, 95, 98, 99, 101, 104, 105, 107, 108, 111, 112, 113, 114, 115, 116, 117, 119, 120, 121, 124, 133, 147, 148, 154, 163, 164, 173, 180, 182, 199, 204, 212, 215, 216, 217, 219, 221, 222, 224, 247, 248, 254, 257, 259, 263, 266, 272, 274, 282, 290, 293, 304

List of Preparers

NOAA

Annie Sawabini, Office of National Marine Sanctuaries
Alice Stratton, Office of National Marine Sanctuaries
Paul Orlando, Office of National Marine Sanctuaries
Vicki Wedell, Office of National Marine Sanctuaries
Hélène Scalliet, Office of National Marine Sanctuaries
Jen Lechuga, Office of National Marine Sanctuaries
Dayna Rignanese, Office of National Marine Sanctuaries
Rachel Matheny, Office of National Marine Sanctuaries
Matt Brookhart, Office of National Marine Sanctuaries
Gladys Miles, Office of General Counsel, Oceans and Coasts Section

Maryland Historical Trust

Elizabeth Hughes, Director/State Historic Preservation Officer
Dr. Susan Langley, State Underwater Archaeologist

Maryland Department of Natural Resources

Catherine McCall, Chesapeake and Coastal Service
Kelly Collins Choi, Chesapeake and Coastal Service
Kimberly Hernandez, Chesapeake and Coastal Service
Emily Vainieri, Assistant Attorney General
Dave Heilmeier, Wildlife and Heritage Service
Jim Bennett, Wildlife and Heritage Service
Kathy McCarthy, Wildlife and Heritage Service
Kerry Wixted, Wildlife and Heritage Service

Tom Parham, Resource Assessment Service
Mark Trice, Resource Assessment Service
Mary Groves, Fishing and Boating Service
Joe Love, Fishing and Boating Service
Tim Groves, Fishing and Boating Service
Jay Kilian, Fishing and Boating Service
Eric Durell, Fishing and Boating Service
Jim Uphoff, Fishing and Boating Service
John Gallagher, Fishing and Boating Service
Matt Negley, Fishing and Boating Service
Brian Richardson, Fishing and Boating Services
Dave Gailey, Forest Service
Mary Owens, Parks Service

Maryland Department of Planning

Paul Cucuzzella, Office of Attorney General

Potomac River Fisheries Commission

Marty Gary, Executive Secretary

Charles County Government

Eileen Minnick, Charles County Government
Steve Bunker, Charles County Government
Deborah Hall, Charles County Government
Rhonda Weaver, Charles County Government

National Park Service Chesapeake Bay Office

Matt Jagunic

Department of Defense

John Pierson, Department of the Navy
CDR Randy Vavra, Department of the Navy
Bridget Kelly Butcher, U.S. Army Garrison Adelphi Laboratory Center
Jack Kaiser, Blossom Point Research Facility

References

- Boesch, D.F., L.P. Atkinson, W.C. Boicourt, J.D. Boon, D.R. Cahoon, R.A. Dalrymple, T. Ezer, B.P. Horton, Z.P. Johnson, R.E. Kopp, M. Li, R.H. Moss, A. Parris, C.K. Sommerfield. 2013. Updating Maryland's Sea-level Rise Projections. Special Report of the Scientific and Technical Working Group to the Maryland Climate Change Commission, 22 pp. University of Maryland Center for Environmental Science, Cambridge, MD.
- Breeding Bird Atlas Explorer (online resource). 2016. U.S. Geological Survey Patuxent Wildlife Research Center. <Accessed 6 September 2016>. <http://www.pwrc.usgs.gov/bba>. Data compiled from: Maryland and the District of Columbia Breeding Bird Atlas 2002-2006. Maryland Ornithological Society. Results used with permission.
- Department of the Navy. 2013. *Environmental Impact Statement for Outdoor Research, Development, Test, and Evaluation Activities Naval Surface Warfare Center, Dahlgren Division (NSWCDD)*. U.S. Department of Defense, Department of the Navy, Dahlgren, Virginia.
- Durell, E.Q., and Weedon, C. 2015. Striped Bass Seine Survey Juvenile Index Web Page. Accessed 25 July 2016 at <http://dnr.maryland.gov/fisheries/Pages/juvenile-index.aspx>. Maryland Department of Natural Resources, Fisheries Service, Annapolis, Maryland.
- MARA Database (online resource). 2010 Maryland Department of Natural Resources. <https://webapps02.dnr.state.md.us/mara/default.aspx> Data compiled from: Maryland Amphibian and Reptile Atlas 2010-2014. Natural History Society of Maryland. Interim results used with permission.
- Maryland Department of Natural Resources. 2013. *Maryland Land Preservation and Recreation Plan 2014-2018*. http://dnr.maryland.gov/land/Documents/LPRP/LPRP_%202014-2018.pdf
- Maryland Department of Planning. 2014. Population Projections for Charles County. Accessed 25 July 2016 at http://www.mdp.state.md.us/msdc/s3_projection.shtml.
- Maryland Geological Survey. http://www.mgs.md.gov/geology/geologic_map/md_geologic_map.html and <http://www.mgs.md.gov/esic/geo/cha.html>
- National Park Service. 2011. *Final Comprehensive Management Plan and Environmental Assessment Captain John Smith Chesapeake National Historic Trail. Delaware, Maryland, Virginia, and District of Columbia*. U.S. Department of Interior, National Park Service, Washington, D.C.
- National Register of Historic Places. 2015. Nomination for the Mallows Bay-Widewater Historic and Archeological District. http://dnr2.maryland.gov/ccs/Documents/MB_NRHP_RegForm.pdf.
- NRCS (Natural Resources Conservation Service), retrieved 2017 from www.wcc.nrcs.usda.gov/legacy/ftp/support/climate/soil-nar/md/CHARLES.doc.
- The Nature Conservancy. 2016. *Maryland Coastal Resiliency Assessment*. M.R. Canick, N. Carlozo and D. Foster. Bethesda, MD.

Office of National Marine Sanctuaries. 2016. *Flower Garden Banks National Marine Sanctuary Expansion Draft Environmental Impact Statement*. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, Maryland.

Outdoor Industry Association. Retrieved 2016 from <https://outdoorindustry.org/2015-annual-report/>.

Rivers & Watersheds: *The Geology of Virginia - The Potomac and Shenandoah System*. College of William and Mary Department of Geology. Accessed 19 July 2016 at <http://web.wm.edu/geology/virginia/rivers/potomac-shenandoah.html>.

Schwarzmann, D., Leeworthy, V.R. 2016. Mallows Bay Potomac River Study Area Profile 2000 to 2015. Marine Sanctuaries Conservation Series. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, Maryland.

Shomette, Donald G. 1996. *Ghost Fleet of Mallows Bay and Other Tales of the Lost Chesapeake*. Tidewater Publishers, Centreville, MD.

Strickland, Scott M., Virginia R. Busby, and Julia A. King. 2015. *Indigenous Cultural Landscapes Study for the Nanjemoy and Mattawoman Creek Watersheds*. Prepared for the National Park Service, Annapolis, MD. St. Mary's College of Maryland, St. Mary's City, Maryland.

Thunder Bay National Marine Sanctuary. 2014. *Final Environmental Impact Statement*. NOAA.

Tilp, Frederick. 1982. *The Chesapeake Bay of Yore*. Chesapeake Bay Foundation, Annapolis.

U.S. Army, Garrison Adelphi Laboratory Center. 2009. *Draft Environmental Assessment for the United States Army Garrison Adelphi Laboratory Center Real Property Master Plan*. https://www.ncpc.gov/DocumentDepot/PublicNotices/Adelphi_Lab_Master_Plan_EA_MP14_Nov2009.pdf.

U.S. Department of Commerce, Bureau of the Census. <http://www.census.gov>.

U.S. Geological Survey. 1984. *Water-Quality Study of the Tidal Potomac River and Estuary - An Overview*. Paper 2233. Edited by Edward Callender, Virginia Carter, D. C. Hahl, Kerie Hitt, and Barbara I. Schultz. <http://pubs.usgs.gov/wsp/2233/report.pdf>.

U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index. <http://data.bls.gov/cgi-bin/surveymost>.

U.S. Department of Labor, Unemployment. <http://www.bls.gov/data/#unemployment>.

Virginia Department of Conservation & Recreation. Feb 2012. 2011 *Virginia Outdoors Demand Survey*. <http://www.dcr.virginia.gov/recreational-planning/document/vosexecsum11.pdf>.

Westerdahl, Christer. 1992. "The Maritime Cultural Landscape." In *Nautical Archaeology*. 21(1):5-14.

APPENDIX A: Mallows Bay-Potomac River National Marine Sanctuary Final Management Plan

May 2019

Executive summary

Mallows Bay-Potomac River National Marine Sanctuary is an approximately 18-square-mile bay area of waters and submerged lands of the tidal Potomac River located 40 miles south of Washington, D.C., off the Nanjemoy Peninsula of Charles County, Maryland. It is an area of national significance featuring unique historical, archaeological, cultural, ecological, and aesthetic resources, and qualities that cover centuries of history dating back from the earliest American Indian presence in the region approximately 12,000 years ago to the Revolutionary War, Civil War, and two World Wars, as well as successive regimes of Potomac fishing industries. The area is most renowned for the “Ghost Fleet,” the sunken remains of 118 wooden steamships built for the U.S. Emergency Fleet Corporation during World War I (WWI). The fleet was constructed at more than 40 shipyards in 17 states as part of a massive national wartime preparation. The significance of this area is recognized through its listing on the National Register of Historic Places (National Register Listing Number 15000173, April 24, 2015).

The national marine sanctuary will provide coordinated and comprehensive management and conservation of maritime resources identified by the Mallows Bay-Widewater Historic and Archeological District listed on the NRHP through the joint management of the area by NOAA, the state of Maryland, and Charles County. Further, this alternative provides meaningful opportunities to promote recreation and tourism in the area, as well as enable extensive programs and partnerships for interpretation, education, and science that are identified in this final management plan.

The name of the sanctuary is Mallows Bay-Potomac River National Marine Sanctuary, which is abbreviated as MPNMS.

1 Background

1.1 About this management plan

This final management plan (FMP) describes all of the management actions and strategies that NOAA intends to implement in order to protect the nationally significant resources within MPNMS, to help conserve and promote the shipwrecks that have been located and those that await discovery. Each resource is a unique and fragile element in our nation’s history that MPNMS is dedicated to preserving, interpreting, and promoting for future generations. The actions described below are non-regulatory and are designed to strengthen and complement existing protections currently in place under the state of Maryland and Charles County.

Development of MPNMS management plan began in January 2016 after conclusion of the public scoping period, and the management plan was updated after conclusion of the public comment period for the DEIS and DMP. Input gathered from resource users, stakeholders, interest groups, government agencies, and other members of the public during these processes was considered in developing the management

plan, including comments regarding boundaries, education and outreach, recreation and tourism, funding, science and research, and sanctuary operations.

The management plan is comprised of five action plans (Resource Protection; Recreation and Tourism; Education; Research, Science, and Technology; and Sanctuary Operations and Administration). It sets priorities to guide sanctuary programs and operations, and provide the public with an understanding of the sanctuary's strategies to conserve and promote the national maritime historic resources of MPNMS.

While MPNMS is managed by NOAA, the sanctuary relies heavily on the work of others to help carry out its mission. NOAA works in full cooperation with the state of Maryland Department of Natural Resources (DNR) and the Maryland Historical Trust (MHT), as well as with the Charles County, Maryland in their role as trustees for state of Maryland resources. In addition, partnerships with private businesses, non-governmental organizations, educational and cultural institutions, and other local, state, and federal agencies provide expertise for scientific research and exploration, resources and capacities for site monitoring and enforcement, and support for education and outreach programs. The many partnerships developed over the course of this nomination and designation process have been, and will continue to be, critical to the success of the sanctuary.

This FMP is specific to NOAA's actions but links to and identifies the actions and responsibilities of partner management agencies, all of which will be an integral component of MPNMS success. Public involvement has been valuable throughout the nomination and designation processes, and will continue to be valuable, through opportunities to volunteer and to participate on the Sanctuary Advisory Council.

1.2 NOAA's Office of National Marine Sanctuaries

The Office of National Marine Sanctuaries (ONMS) is within NOAA's National Ocean Service (NOS) and serves as the trustee for a system of marine protected areas encompassing more than 600,000 square miles of ocean and Great Lakes waters from state of Washington to the Florida Keys, and from New England to American Samoa (Figure 1). Within their protected waters, giant whales feed, breed, and nurse their young, coral colonies flourish, and shipwrecks tell stories of our maritime history. NOS manages the national marine sanctuaries through the authority of the National Marine Sanctuaries Act (NMSA). Existing national marine sanctuaries contain deep ocean gardens, coral reefs, whale migration corridors, deep-sea canyons, historically significant shipwrecks, and other underwater archaeological sites. They range in size from a one-nautical mile column at Monitor National Marine Sanctuary, to more than 582,578 square miles at Papahānaumokuākea Marine National Monument.

ONMS fosters public awareness of marine resources and maritime cultural heritage through scientific research, monitoring, exploration, education, and outreach, and works closely with its many partners and the public to protect and manage sanctuaries. ONMS is a world leader in marine management by protecting living marine creatures, environmental quality, and maritime cultural heritage resources, while maintaining recreational and commercial activities that are sustainable and compatible with long-term preservation.

NATIONAL MARINE SANCTUARY SYSTEM

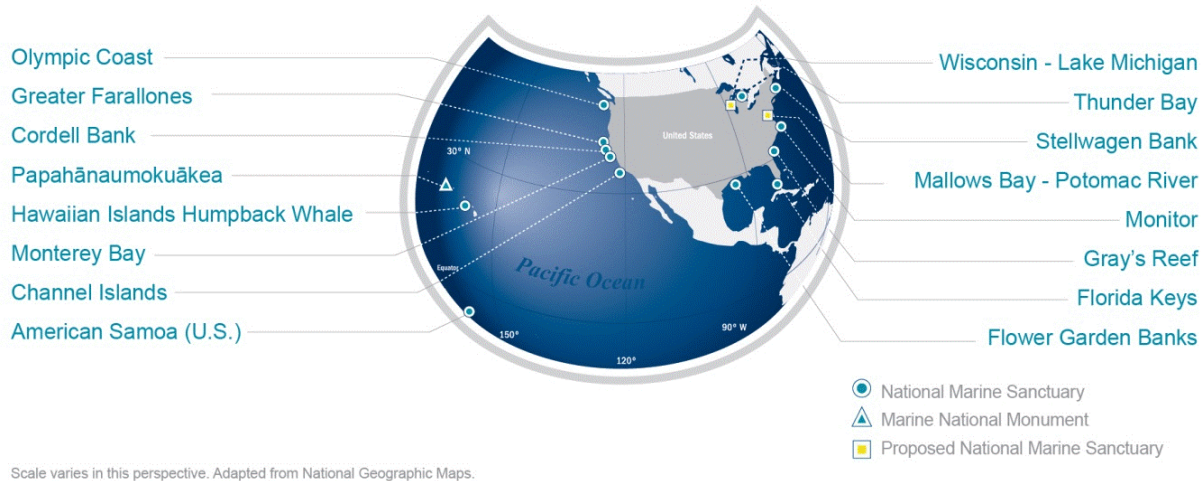


Figure 1: Map of the National Marine Sanctuary System

1.3 Malloes Bay-Potomac River National Marine Sanctuary

Located on a beautiful and relatively undeveloped section of the tidal Potomac River in Charles County, Maryland, just 40 miles south of the nation's capital, the Malloes Bay area is the home of one of the largest collections of historic shipwrecks and related maritime resources in the world. These waters contain a diverse collection of more than 100 vessels and related archaeological artifacts from the region's earliest Native American cultures to the 20th century. These marine resources are nationally significant not only due to their sheer numbers and diversity, but also because of their historical, archaeological, cultural, educational, research, scientific, recreational, and tourism values.

The Potomac River has nurtured people for more than 12,000 years, serving as a source for food, transportation, trade, and recreation. Often referred to as "the Nation's River," the Potomac flows through an area of distinctive history and natural beauty of national and international significance. From American Indian canoes to Captain John Smith's shallop, and from wooden sailing craft that helped settle and feed our growing nation to modern Navy ships visiting the Washington D.C. Navy Yard, many thousands of vessels have traveled the Potomac River over centuries. Yet, the Potomac's remarkable maritime history reflected in the hundreds of historic shipwrecks from the Revolutionary War to the present found throughout the river is often not appreciated or well understood.

The Malloes Bay area represents centuries of American history, and holds many heritage resources, from a suspected Revolutionary War era longboat, to a Confederate blockade runner and the remains of over 100 wooden and composite steamships built for America's engagement in WWI. While these ships are the area's more obvious historic and archaeological features, many historic resources, including historic commercial fishing camps, piers, wharfs, ship breaking operations, landings, and battlescapes, are less visible and remain largely unknown to the public. MPNMS would protect and manage these historical resources as sanctuary resources.

Archaeological research and evidence suggests that it is a high probability that many more historic archaeological sites await discovery. In addition to helping to protect and interpret individual sites, managing the sanctuary as a maritime cultural landscape offers the opportunity to foster an interconnected understanding of our nation's and the Chesapeake and Potomac region's rich maritime past. This landscape approach considers the archaeological, historical, and associated natural resources from the perspective of their relationship with people and cultures through time. It enables a more comprehensive interpretation of people and place. And, as new discoveries are made, it encourages an increasingly diverse public to find shared meaning and outstanding opportunities for education, recreation, and tourism in this nationally and internationally significant place.

To help promote and conserve these underwater treasures, this section of the Potomac River was nominated by the state of Maryland, Charles County, and community groups and individuals as a proposed new national marine sanctuary – the first such sanctuary on a river and in the Chesapeake watershed. This section of the Potomac contains the largest concentration of WWI-era shipwrecks in the U.S., represents three centuries of American maritime history, and contains Native American historical artifacts. As a collection, the resources illuminate important and dramatic chapters in our nation's history. Readily accessible by boaters and paddlers, and many visible from land at low tide, these wrecks often provide sanctuary users with an up close shipwreck experience.

Designation under the NMSA allows NOAA to supplement and complement work by the state of Maryland and other federal agencies to conserve this collection of nationally significant shipwrecks and related cultural assets. As the site of the largest collection of vessels built for America's entry into WWI, it will highlight and serve as a lasting legacy of the WWI centennial, which commenced in April 2017.

A public scoping period commenced on October 7, 2015 and ended on January 15, 2016, during which time public meetings were held and NOAA received both written and oral comments on the concept of designating the sanctuary. On January 9, 2017, based on public comments received during the scoping period and in consultation with the state of Maryland, NOAA published a draft environmental impact statement (DEIS), draft management plan (DMP), and proposed rule. Together, these documents constitute a proposal by NOAA to designate a 52-square-mile MPNMS to protect numerous shipwrecks and related underwater cultural resources that possess exceptional historic, archaeological, and recreational value.

The public comment period on the DEIS, DMP, and proposed rule began on January 9, 2017 and ended on March 31, 2017, during which time two public meetings were held and NOAA received both written and oral comments on the boundary and management options. Based on the input received during the public comment period, NOAA is now publishing this FEIS, FMP, and final regulations to designate MPNMS.

MPNMS boundary

NOAA has identified its preferred alternative based on the public comments received through the NEPA scoping and public hearing processes, government and tribal consultations, discussions with constituents and resource management experts, and deliberations with the state of Maryland and Charles County, Maryland as joint management partners. This alternative was chosen because it best meets the purposes and needs of the sanctuary while taking into account considerations and insights gained through these

comments, discussions, and interactions. As such, this alternative provides coordinated and comprehensive management and conservation of maritime resources identified by the Mallows Bay-Widewater Historic and Archeological District listed on the NRHP through the joint management of the area by NOAA, the state of Maryland, and Charles County. Further, this alternative provides meaningful opportunities to promote recreation and tourism in the area, as well as enable extensive programs and partnerships for interpretation, education, and science that are identified in the FMP.

The nationally significant collection of shipwrecks and related maritime cultural heritage resources are a vital part of our history, yet vulnerable to natural processes and human impacts. Through research, education, and community involvement, the sanctuary, its many partners, and the public will work to conserve these historic shipwrecks for future generations.

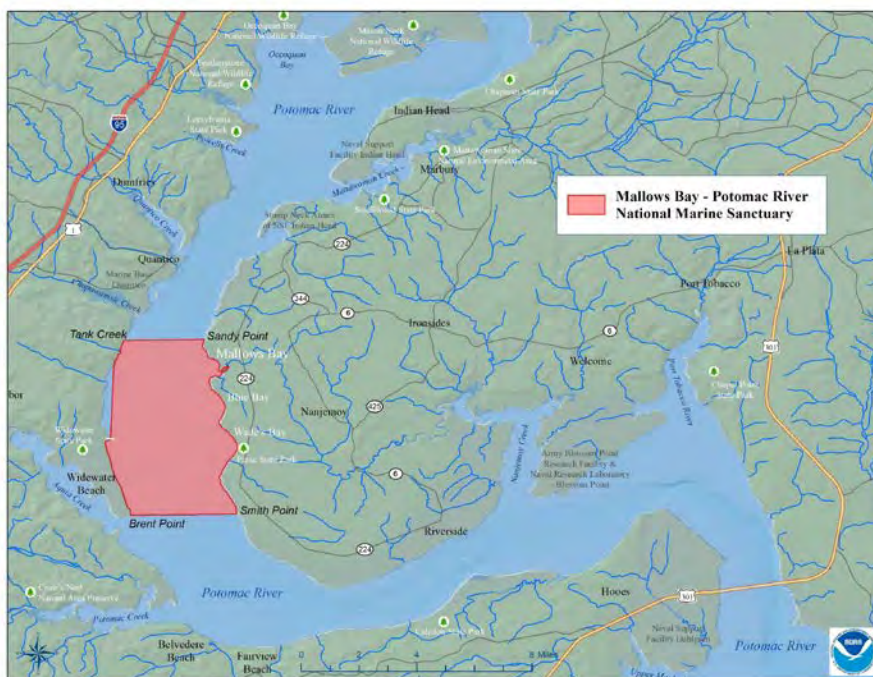


Figure 2: Map of Mallows Bay-Potomac River National Marine Sanctuary

Regulations

NOAA is implementing three regulations under the NMSA to protect the maritime cultural heritage resources and supplement and complement existing federal and state authorities within the sanctuary boundaries (see Appendix E). The sanctuary-wide regulations will prohibit: (1) damaging sanctuary historical resources; (2) damaging any signs or markers related to the sanctuary; and (3) interfering with an investigation in connection with enforcement of the NMSA, sanctuary regulations, or a sanctuary permit. These regulations have an exception for activities that are necessary to respond to emergencies that threaten lives, property, or the environment and for law enforcement activities. These regulations also include an exemption to the prohibition against damaging sanctuary historical resources for “traditional fishing,” and “Traditional fishing” is defined in 922.201 as “those commercial, recreational, and subsistence fishing activities that were customarily conducted within the Sanctuary prior to its designation

or expansion, as identified in the relevant Final Environmental Impact Statement and Management Plan for this Sanctuary”.

NOAA and DoD agree that all military activities will be carried out in a manner that avoids, to the maximum extent practicable, any adverse impacts on sanctuary resources and qualities. Based on information provided by DoD on its activities in the area, and analyzed by NOAA in its FEIS, the three prohibitions will not apply to existing military activities as described in the FEIS, or to the following activities:

- i) Low-level overflight of military aircraft operated by DoD;
- ii) The designation of new units of special use airspace;
- iii) The use or establishment of military flight training routes;
- iv) Air or ground access to existing or new electronic tracking communications sites associated with special use airspace or military flight training routes; or
- v) Activities to reduce or eliminate a threat to human life or property presented by unexploded ordnances or munitions.

New military activities that do not violate the three prohibitions are allowed in the sanctuary. Any new military activity that is likely to violate sanctuary prohibitions may become exempt from the prohibitions through consultation between the director and DoD pursuant to Section 304(d) of the NMSA. The term “new military activity” includes, but is not limited to, any existing military activity that is modified in any way (including change in location, frequency, duration, or technology used) that is likely to destroy, cause the loss of, or injure a sanctuary resource, or is likely to destroy, cause the loss of, or injure a sanctuary resource in a manner or to an extent that was not considered in a previous consultation under Section 304(d) of the NMSA.

As part of the designation, NOAA is also giving the sanctuary the ability to issue emergency regulations. Emergency regulations are used when there is an imminent risk to sanctuary resources and a temporary prohibition would prevent the destruction or loss of those resources. Emergency regulations can only be issued for a fixed amount of time that address the imminent risk. A full rulemaking process must be undertaken to consider making emergency regulation permanent. DoD activities are not subject to emergency regulations.

Permits, certifications, and authorizations

Sanctuary designation includes the authority to issue general permits, special use permits, certifications, and authorizations to allow regulated activities to occur in the sanctuary under certain conditions. Because of the limited number of regulated activities described above, NOAA does not anticipate using these authorities frequently, but having a range of options available will allow sanctuary managers flexibility to address proposed activities while protecting the sanctuary historical resources.

NOAA has authority to issue permits to allow certain activities that would otherwise violate the prohibitions in MPNMS regulations. Similar to other national marine sanctuaries, NOAA will retain authority to issue general permits only for the purposes of sanctuary education, research, and management. NOAA will execute this permit authority using the existing procedure and review criteria that require permit applicants to provide a description of the proposed activity, a timeline, information on

the equipment, personnel and their qualifications, methodology to be used, and potential effects of the activity on sanctuary resources.

Special use permits (SUPs) are established Section 310 of the NMSA (16 U.S.C. 1441) to allow NOAA to issue permits to authorize specific activities in a sanctuary if the permit is necessary (1) to establish conditions of access to and use of any sanctuary resource or (2) to promote public use and understanding of a sanctuary resource. Special use permits are generally issued for concessionaire-type activities and other commercial activities that require access to the sanctuary to achieve a desired goal. The activities that qualify for SUPs are set forth in the Federal Register (78 FR 25957; May 3, 2013 and 82 FR 42298; September 7, 2017). Categories of SUPs may be changed or added to through public notice and comment. The current list of national categories subject to the requirements of SUPs is:

- 1) The placement and recovery of objects associated with public or private events on non-living substrate of the submerged lands of any national marine sanctuary;
- 2) The placement and recovery of objects related to commercial filming;
- 3) The continued presence of commercial submarine cables on or within the submerged lands of any national marine sanctuary;
- 4) The disposal of cremated human remains within or into any national marine sanctuary;
- 5) Recreational diving near the USS *Monitor*;
- 6) Fireworks displays;
- 7) The operation of aircraft below the minimum altitude in restricted zones of national marine sanctuaries; and
- 8) The continued presence of a pipeline transporting seawater to or from a desalination facility.

NOAA will also issue certifications for pre-existing authorizations or rights. Here, the term “pre-existing authorizations or rights” refers to any leases, permits, licenses, or rights of subsistence use or access such activities that are in existence on the date the sanctuary designation becomes effective. The certification process essentially “grandfathers in” existing activities while seeking to minimize the impact on sanctuary resources through terms or conditions worked out during the certification process. Applications for certifying pre-existing authorizations or rights must be received by NOAA within 180 days of the effective date of the designation.

NOAA also assumes authority to issue authorizations. An authorization allows an otherwise prohibited activity to occur in a sanctuary, if such activity is specifically authorized by any valid federal, state, or local lease, permit, license, approval, or other authorization. “Authorization authority” is intended to streamline regulatory requirements by reducing the need for multiple permits. Similar to certifications, NOAA would use terms and conditions worked out during the authorization process to minimize the impact of the proposed activity on sanctuary resources.

Non-regulatory programs

In addition to the regulations described above, NOAA will implement non-regulatory programs as described in detail in this document. Each resource is a unique and fragile element in our nation’s history that MPNMS is dedicated to preserving, interpreting, and promoting for future generations. The actions described herein are designed to strengthen and complement existing regulatory and non-regulatory protections currently in place under the state of Maryland and Charles County.

1.4 Joint management of the sanctuary

Partnerships with government entities at all levels, as well as with non-profit, business, academic, tourism, American Indian, and other user groups are critical to the management and operational success of MPNMS. Consequently, the sanctuary is managed jointly by NOAA, the state of Maryland, and Charles County, Maryland, in cooperation with non-governmental partners.

NOAA will manage MPNMS collaboratively with the state of Maryland and Charles County. The MHT, within the Department of Planning, and the Department of Natural Resources, will represent the state of Maryland. NOAA has formalized this joint management of the sanctuary regulations and has worked out the operational details of the collaboration in a Memorandum of Agreement (MOA) (see Appendix D for the MOA). Details on the execution of sanctuary management, including conditions to consider during management plan review, are included in the MOA.

In addition, NOAA will establish and manage a Sanctuary Advisory Council to provide recommendations to the sanctuary superintendent, ONMS, NOAA, or DOC, as appropriate, regarding the management of MPNMS. This advisory council may be comprised of up to 15 members. Members of the advisory council may include: (a) persons employed by federal and/or state agencies, with expertise in management of sanctuary resources and (b) representatives of local user groups, (such local user groups may include, but are not limited to, local fishing interests), conservation and other public interest organizations, scientific organizations, educational organizations, or other organizations or persons interested in the protection and multiple use management of sanctuary resources. In its establishment, NOAA will strive to achieve a balanced advisory council composition that best represents the primary sanctuary users and interests. In determining the composition of the advisory council, NOAA may consult with the state and/or the county.

A partnership organization and/or “Friends” group could assist with planning, development, and outreach for the sanctuary.

Maryland Department of Natural Resources (DNR)

The Maryland DNR’s mission is to “Lead Maryland in securing a sustainable future for our environment, society, and economy by preserving, protecting, restoring, and enhancing the state’s natural resources.” As a partner in the designation and implementation of MPNMS, DNR will continue to retain all authorities and regulations, while working cooperatively to promote the sustainable use and conservation of the Potomac River and its ecosystems.

The DNR Chesapeake and Coastal Service manages the Maryland coastal zone pursuant to the Coastal Zone Management Act (CZMA). Maryland’s Coastal Zone Management Program (Program) was federally approved in 1978 in response to the passage of the CZMA, which provides funds to coastal states to develop and administer coastal zone management programs. The program works to manage the resources within Maryland’s coastal zone - the land, water, and subaqueous land between the territorial limits of Maryland in the Chesapeake Bay, Atlantic coastal bays, and the Atlantic Ocean, as well as the towns, cities, and counties that contain and help govern the thousands of miles of Maryland shoreline.

The DNR Fisheries and Boating Service manages commercial and recreational fishing in all Maryland tidal waters of the Chesapeake Bay and tributaries (excluding the mainstem Potomac River which is managed by the Potomac River Fisheries Commission in cooperation with Maryland DNR and Virginia Marine Resources Commission). DNR also supports and regulates public boating use and safety on the Potomac River. The Natural Resources Police (NRP) patrol on land and water, and are responsible for conservation and boating law enforcement, homeland security, search and rescue, and emergency medical services. NRP will partner with MPNMS and NOAA's Office of Law Enforcement (OLE) to enforce sanctuary regulations. NRP will serve as the primary enforcement presence within the sanctuary and will coordinate with NOAA and the Coast Guard as outlined in a Joint Enforcement Agreement.

DNR owns Malloys Bay Park, and manages extensive land adjacent to MPNMS, including Nanjemoy and Riverside Wildlife Management Areas (WMA), and works with the Bureau of Land Management to manage hunting on Douglas Point Special Recreation Management Area (SRMA). DNR's Wildlife and Heritage Service manages these lands for public access, recreation, and ecosystem conservation and restoration. DNR will work in partnership with MPNMS to promote public access and recreational opportunities at the land-water interface while striving to better understand and enhance the natural ecosystems.

Maryland Historical Trust (MHT)

The MHT, within the Maryland Department of Planning (MDP), is the state agency dedicated to preserving and interpreting the legacy of Maryland's past. Through research, conservation, and education, MHT assists the people of Maryland in understanding their historical and cultural heritage. The MHT serves as Maryland's State Historic Preservation Office (SHPO), pursuant to the National Historic Preservation Act. In addition to its administrative office in Crownsville, the MHT includes the Jefferson Patterson Park and Museum in St. Leonard, Maryland, which houses the Maryland Archaeological Conservation Laboratory.

The Maryland Maritime Archaeology Program (MMAP) within MHT is responsible for the management of all submerged archaeological historic property on state of Maryland lands. To this end, it evaluates permits for undertakings for federal compliance purposes, issues permits for applications for projects affecting maritime and submerged archaeological historic properties, and provides educational trainings and public outreach programs and events.

The MMAP was created in 1988 in response to the National Abandoned Shipwreck Act, which gave states that had management programs in place title to significant historic shipwreck remains within their waters. In addition to shipwrecks, the MMAP searches for, inventories, and manages the state of Maryland's other submerged cultural resources. These include prehistoric sites and historic structures, such as buildings, bridge, and wharf remains. Maryland's waters cover a range of vessels from native log canoes to colonial merchantmen and warships, and even relatively modern shipwrecks of historic importance.

MMAP actively undertakes cooperative endeavors with numerous groups and agencies at local, state, and federal levels to promote wise management, as well as public education and outreach. These partnerships include the U.S. Navy; the National Park Service; the U.S. Army Corps of Engineers; the Maryland State Highway Administration; the Maryland DNR; maritime, historical and archaeological societies (such as

the Institute for Maritime History, the Nautical Archaeology Society, and the Maritime Archaeological and Historical Society); dive clubs; metal detecting groups; and local and regional schools.

The MHT also administers the Maryland Heritage Area Program. The sanctuary waters lie adjacent to the Southern Maryland Heritage area. The Maryland Heritage Area Authority provides targeted financial and technical assistance, within locally designated heritage areas, to promote economic well-being of the region's communities.

Charles County Department of Recreation, Parks, and Tourism

The Charles County Department of Recreation, Parks, and Tourism represents the county in management of the sanctuary through the Division of Parks and Grounds. The division's mission is to enhance the quality of life for county residents by providing enjoyable leisure services. The Division of Parks and Grounds maintains about 14 parks, five boating access facilities, and other recreational facilities, with 50 miles of trails, totaling 3,600 acres serving over 700,000 annual visitors.

Charles County Parks and Grounds provides the main access to Mallows Bay through the Mallows Bay Park. The Mallows Bay Park is located on a larger protected property owned by the state of Maryland (Nanjemoy WMA), but the county has primary responsibility to maintain the park under a lease agreement. The Charles County Office of Tourism also plays a role in promoting Mallows Bay Park and providing information on the history of the site.

1.5 Partnerships

In addition to shared management responsibilities between federal, state, and local agencies, the sanctuary will partner with other local, state, and federal authorities, along with support from recreational users and other members of the community, to conserve and promote these maritime cultural heritage resources.

MPNMS strongly encourages responsible stewardship of the shipwrecks and other maritime cultural heritage resources. To facilitate recreational access, the sanctuary will work with partners to improve access, signs, and interpretation, and promote visitation and safe use of sanctuary resources.

Both NOAA and the state of Maryland recognize that sea level rise, shoreline erosion, and aquatic invasive species pose potential harm to these maritime cultural heritage resources. The sanctuary plans to work with state, university, and NOAA scientists to develop long-term monitoring programs to better understand how the chemical, biological, and physical conditions found around these shipwrecks are affecting the corrosion and deterioration of these irreplaceable archaeological sites.

The sanctuary's planned education and outreach programs will help people of all ages and backgrounds enrich their lives while learning about, physically experiencing, and working to conserve the Potomac River's maritime cultural heritage. Because people are stewards of what they value, and value what they understand, MPNMS embraces education as a powerful resource conservation tool. Sanctuary education comes in many forms, from programs for teachers and students to imaginative exhibits, and from community boat building to remotely operated vehicle competitions. Although conservation is the central message, the sanctuary promotes learning across the curriculum.

MPNMS will conduct, support, promote, and coordinate scientific research and monitoring of its maritime cultural heritage resources to ensure their long-term conservation. Archaeological and historical research conducted by the sanctuary and its partners is fundamental to better understanding the region's historic shipwrecks. This knowledge is essential for addressing management issues and enhancing resource protection. Archaeological and historical research is also at the heart of the sanctuary's plans for exhibits, education initiatives, and public programming.

1.6 Developing a management plan

As part of the designation process and in accordance with the NMSA, NOAA, in partnership with the state of Maryland and Charles County, Maryland, developed this FMP to identify site-specific goals, objectives, strategies, and activities to ensure the sanctuary best achieves its mission and the community-based vision, as articulated in the nomination and in the public scoping sessions.

Management plans are sanctuary-specific planning and management documents used by all national marine sanctuaries. They identify needs, challenges, and opportunities, and develop a course for the future. A management plan describes the resource protection, recreation and tourism, research, and education programs that guide sanctuary operations, specify how a sanctuary should best conserve and promote its resources, and describe sanctuary regulations if appropriate.

Development of MPNMS management plan began in January 2016 after conclusion of the public scoping period, and was updated after conclusion of the public comment period for the DEIS and DMP. Input gathered from resource users, stakeholders, interest groups, government agencies, and other members of the public during these processes was considered in developing the management plan, including comments regarding boundaries, education and outreach, recreation and tourism, funding, science and research, and sanctuary operations.

This FMP guides MPNMS programs and operations by setting budget and project priorities. The plan also assists the Sanctuary Advisory Council in providing advice on management decisions and provides the public with a better understanding of the sanctuary's strategies to protect the resources of the Potomac River in and around Mallows Bay.

The core of the management plan consists of five action plans: Resource Protection; Recreation and Tourism; Education; Research, Science, and Technology; and Sanctuary Operations and Administration. Each action plan provides background information on resource management issues and an overview of the direction the sanctuary will take to address management needs. The goals for each action plan are summarized and the strategies describe how the goals will be accomplished for a particular issue or program area.

2 Resource Protection Action Plan

2.1 Purpose

This action plan strengthens protection of the historic shipwrecks, assets related to shipbreaking of the WWI-era vessels, other significant maritime cultural features of the area, and the natural resources related to the structures provided by the historic shipwrecks.

2.2 Background

Several natural processes and human impacts threaten the long-term sustainability of shipwrecks and maritime cultural heritage resources of the Mallows Bay-Potomac River area. While little, if anything, can be done to “protect” the resources from natural processes such as floods and extreme weather events, programs identified in other management action plans can help better understand and communicate any changes and associated impacts. As such, the Resource Protection Action Plan focuses on assessing and reducing human impacts on sanctuary resources. Human activities, such as climbing/accessing the wrecks, fire, vandalism, altering or looting, and anchoring in some locations, have potential for harming shipwrecks and other maritime cultural heritage resources. This action plan enhances extant provisions and enables additional protections by raising awareness of the historic value of the maritime assets and related ecosystems, by providing appropriate programming and infrastructure coordination to support increased visitation while mitigating threats to the resources, and by encouraging responsible use of the area. As appropriate, enforcement will be used to help deter human-induced threats.

In 2014, the Maryland SHPO requested designation of an area of the Potomac River which included Mallows Bay as the Mallows Bay-Widewater Historical and Archeological District on the National Register of Historic Places; the area was listed in April 2015. As a National Register Historic District in the state of Maryland, no artifact collection is allowed and permits for any disturbance must be approved by the state of Maryland’s Board of Public Works, in addition to the SHPO. However, that listing did not provide additional authority or resources to the state of Maryland nor strengthen state laws related to resource protection, as defined in Section 2.4 of this FEIS. For example, the NHPA only applies to federal undertakings and does not address actions taken by the public. As such, the NMSA will supplement existing state authorities by closing gaps related to the collection of historic artifacts, by strengthening the requirement for the public to report discovery of historic artifacts, by increasing enforcement capacity, and by increasing the penalty for violation of these prohibitions. Additionally, NOAA’s non-regulatory programs (e.g., education, public outreach, citizen science) make significant contributions to the ongoing and long-term management of historic resources and are important tools to help raise public awareness and deter impacts to the historic and maritime cultural features of the area.

2.3 Action plan goals

The goals of this action plan are to:

- Protect the historical and archaeological maritime resources within the sanctuary boundaries, both for their significance to the cultural heritage and national patrimony, but also for the integral role they have come to play in the natural environment of the region;
- Manage visitor use, encourage sustainable tourism, and enhance public access, recreation, heritage tourism, and eco-tourism in a manner that is safe and minimizes potential impacts on sanctuary resources; and
- Enhance federal, state, local, and private partnerships working to conserve and promote the historic, cultural, natural, archaeological, recreational, educational, scientific, and aesthetic resources of the area, through the coordination of law enforcement and emergency response efforts, and interpretive enforcement programs.

The Resource Protection Action Plan is tightly coordinated with other actions plans (see Appendix 1: Strategy Crosswalk) since there is mutual benefit to be derived and, as a result, this allows both budgetary and managerial efficiency. This action plan seeks to close gaps between the existing protections provided and the goals stated above through the application of the NMSA, which would preclude all collection of artifacts and site disturbance, beyond the protection offered by state of Maryland legislation and the National Register status which applies to the Historic District.

Safety

(coordinates with Recreation and Tourism Action Plan)

The safety of both the resources and visitors can be enhanced by the development of shore-side signage and marked water trails to guide visitors through the wrecks and away from sensitive heritage or environmental areas while providing a positive experience.

Interpretive Enforcement

(coordinates with both the Recreation and Tourism Action Plan and the Education Action Plan)

Increased public awareness of and compliance with protective measures for the resources will be enhanced through education and outreach. This takes numerous forms, including multi-media, trainings for law enforcement agencies, collaboration with institutional, private sector, and non-profit partners, and ongoing monitoring programs.

2.4 Action plan strategies

STRATEGY RP-1

Increase compliance with sanctuary regulations and other applicable state and federal laws.

Activity 1.1: Ensure sufficient enforcement presence in the sanctuary through partnerships and interagency coordination.

- A. Develop outreach materials for enforcement officers to distribute while patrolling the sanctuary.
- B. Provide information to law enforcement personnel on interpretive enforcement.
- C. Host regional law enforcement/maritime cultural heritage resource law workshops.

- D. Develop an interagency communication and emergency response plan.
- E. Explore feasibility of using technology to monitor the sanctuary (e.g., periodic drone overflights and solar-powered surveillance cameras).

Activity 1.2: Use interpretive enforcement as a tool to inform users about sanctuary regulations.

- A. Integrate interpretive enforcement into shore-side signs throughout the sanctuary region.
- B. Include informational inserts about the sanctuary in Maryland boat registration and renewal packets.
- C. Provide U.S. Coast Guard Auxiliary members, marina employees, and other appropriate individuals and organizations with information about recognizing and reporting violations of sanctuary regulations.

STRATEGY RP-2

Assess and evaluate use of sanctuary resources.

Activity 2.1: Monitor use of sanctuary resources in order to better understand user groups being served, patterns of use, and the effects of use on the resources.

- A. Develop plan and begin to implement monitoring programs to understand baseline conditions and track change over time.
- B. Work with outfitters, local businesses, and Charles County government (Parks and Grounds, Chamber of Commerce/Tourism) and enforcement partners to document visitation to the sanctuary and use of the resources.
- C. Develop procedures and provide incentives to enable users to voluntarily report visitation to the sanctuary and use of the resources.
- D. Explore the use of technologies (e.g., website links, social media, on-site QR codes) to facilitate monitoring and reporting of visitors and uses.

STRATEGY RP-3

Build capacity for access and responsible use of sanctuary resources by fostering greater awareness among known and potential user groups.

Activity 3.1: Provide practical information for users such as shipwreck identification maps and information, access points, regulations, and contact information.

- A. Develop outreach materials and web-based information for users of sanctuary resources.
- B. Explore the use of cell phones and podcasting as a means of providing users interpretive materials at shipwreck sites.
- C. Provide public-friendly information about the shipwrecks, sanctuary regulations, and enforcement/emergency contact information at marinas, boat ramps, parks, other access points, and venues like visitor centers.

Activity 3.2: Install trail/guidance/mooring buoys at shipwreck sites and along paddling routes to protect shipwrecks from anchor damage and to facilitate approaching the shipwrecks in a manner that protects the resource from damage.

- A. Develop and begin implementation of a five-year mooring buoy plan that addresses mooring buoy design, prioritization of mooring buoy deployment, and operational plans for installation, redeployment, and maintenance.
- B. Work with local outfitters and other partners to monitor the buoys throughout their deployment.

Activity 3.3: Explore the development of “certification programs” for local outfitters, businesses, and local activities that actively promote recreational etiquette and stewardship of sanctuary resources (e.g., similar to the Florida Keys National Marine Sanctuary’s Blue Star Program).

Activity 3.4: Work with other agencies, local governments, and non-governmental organizations to improve public access along the Potomac River.

STRATEGY RP-4

Preserve and curate maritime cultural heritage artifacts.

Activity 4.1: Conduct an assessment of the wrecks and determine the best approaches to in-situ conservation that encourages public access and interpretation while protecting natural resources, especially where wrecks have become habitat.

Activity 4.2: Develop an agreement with the Maryland Archaeological Conservation Laboratory for treatment and curation of artifacts if at any time artifact removal is deemed necessary.

Activity 4.3: Establish membership criteria and procedures to establish an accessions committee to evaluate donation criteria, accept artifacts previously removed or tied to the history of the ships and area, and artifact handling policies in regard to exhibits, loans, and selected access to collections.

Activity 4.4: Make artifacts available to the public and to professionals via exhibits, loans, and selected access to the artifact collection.

3 Recreation and Tourism Action Plan

3.1 Purpose

This action plan enhances tourism and recreational opportunities through safe and responsible public uses that are compatible with sanctuary objectives for resource protection.

3.2 Background

MPNMS offers outstanding outdoor recreation and heritage and nature tourism opportunities, including fishing, kayaking and canoeing, boating, wildlife viewing, fossil hunting, and immersion in important chapters in our nation’s history.

The area’s role in Native American history, the Revolutionary War, Civil War, and WWI and II are some of the critical stories to be told in and around the sanctuary. Most apparent to the public is the story

surrounding the vast “Ghost Fleet” of Mallows Bay, including its role in making America the greatest shipbuilding nation in the world; its role in the creation of the U.S. Merchant Marine; and the shipbreaking operation’s role in supporting America’s entry into WWII. This history is unique and attractive to a diverse audience of history buffs, explorers, and tourists, both domestic and international. With sanctuary designation, it is anticipated that there will be strong interest in the sanctuary and its Ghost Fleet of WWI steamships.

Visitors to MPNMS can engage in a broad variety of recreational and tourism experiences and activities. The National Park Service Chesapeake Bay Office partnered with the Chesapeake Conservancy to connect and network a series of recreational sites along the Maryland and Virginia shores, including Mallows Bay, to facilitate public access and enhance recreational experiences along this portion of the river. The sanctuary’s location allows for several connection points to this network. The region is contiguous to three national trails (Captain John Smith Chesapeake National Historic Trail, the Star Spangled Banner National Historic Trail, and the Potomac Heritage National Scenic Trail). Additionally, MPNMS is adjacent to the Religious Freedom National Scenic Byway, included in the Indian Heritage Trail (“Through Piscataway Eyes,”), and is surrounded by state and local parkland, wildlife management areas, and lands managed by the U.S. Bureau of Land Management.

This section of the Potomac River supports a premier recreational fishery, and many high-profile fishing tournaments occur in nearby waters. Paleocene-era shark teeth and other fossils can be found along the shoreline. The area is home to one of the largest nesting eagle populations in the eastern United States and provides habitat for other birds and wildlife, making it an attractive location for birders and wildlife enthusiasts. However, the remarkable history, natural beauty, and the recreational and tourism opportunities of this area have been relatively unknown and underutilized and thus visitor services are limited. Over the past few years, efforts have been made to connect and market a diversity of recreational opportunities along the Maryland and Virginia sides of the river, including options for day-use and itineraries for multiple day excursions. Sanctuary management, communications, and outreach efforts can supplement and enhance this development of sustainable local tourism and outdoor recreation industries.

3.3 Action plan goals

The three goals of this action plan are to:

- Manage and enhance public access, recreation, heritage tourism, and eco-tourism.
- Develop interpretive programs, exhibits, water trails, and public outreach to schools, community forums, and other interested institutions by relating the pre-history, history, and unique ecological evolution of the sanctuary area and its natural and historical resources, and its relationship to the larger landscape of the American environment and its maritime cultural heritage.
- Utilize the designation to responsibly market a high quality visitor experience to domestic and international visitors.

This action plan seeks to close gaps between the existing opportunity for recreation and tourism and the goals stated above. To do so, a focus on the following priorities will be integral to the action plan strategies:

Marketing and Promotion

Raising public awareness of the sanctuary and sanctuary-related opportunities is a critical first step in enhancing tourism and recreational use of the sanctuary. To do so involves developing and implementing a strategic marketing and communications plan and an orientation and interpretation plan. It also involves providing basic way-finding and informational materials on the internet, mobile device applications, and in publications, as well as offering special events and programs to draw targeted audiences to the sanctuary, while maintaining sensitivity to the resource protection needs of the sanctuary.

Visitor Services

Basic visitor amenities (i.e., access road signs, parking, information, and restrooms) need to be assessed and future needs evaluated and planned. Services, such as experienced guides, kayak and canoe rentals, bait and tackle, food, lodging, and other amenities, are very limited in this area. Developing or enhancing these services in a manner which is sustainable and consistent with Charles County's planning for this area will help ensure a high quality visitor experience to the sanctuary.

Water Access

Charles County, in cooperation with Maryland DNR, manages a day-use park at Mallows Bay, which has wildlife viewing areas, waterfront fishing, and hiking trails. Many of the historic shipwreck and shipbreaking remains are visible from the shoreline at low tides. A boat ramp and special kayak launching area constructed by the state of Maryland and Charles County provides easy access to Mallows Bay, the Potomac River, and the historic shipwrecks.

However, the size and topography of the boat launch area present challenges for accommodating increased usage and may create user conflicts between kayaks, motor boats, and visitors, particularly on weekends. There is a severe shortage of reasonable alternative access sites along this section of the Potomac River. As such, an important component of the marketing and promotion strategy will be to assess the types and locations of recreational uses along the middle portion of the Potomac River to encourage visitation to other access points for purposes that do not necessarily depend the historic and/or natural resources afforded at Mallows Bay Park.

Safety

Water current, winds, and weather can make this section of the Potomac River dangerous at times. Moreover, the channel for boats coming in and out of the Mallows Bay Park boat ramp is not well marked. Additionally, no directional markers exist for safe water trails through the shipwrecks, whose steel spikes and other remains often lie just below the water surface, posing risks to both boaters and the resources. Additional guidance, warnings, and other safety measures would be advisable.

3.4 Action plan strategies

STRATEGY RT-1

Increase awareness and knowledge of the sanctuary by developing and implementing a strategic marketing and communications plan targeted toward a wide variety of users and potential visitors.

Activity 1.1. Partner with the state of Maryland and Charles County offices of tourism, the Southern Maryland Heritage area, the Charles County Chamber of Commerce, and the Maryland WWI Centennial Commission to develop and implement a marketing and communications plan to promote the sanctuary.

Activity 1.2. Explore co-marketing and co-branding opportunities for recreation and tourism with the commonwealth of Virginia and local counties.

Activity 1.3: Develop basic outreach materials for a wide variety of users that encourage responsible and safe use of sanctuary resources.

Activity 1.4: Develop a website and mobile-based application to provide quality, up-to-date information about the sanctuary, including implementing web 2.0 components (social networking, wikis, blogs, etc.) to encourage collaboration and interaction with the public.

Activity 1.5: Develop and provide wayfinding and signs for the sanctuary.

Activity 1.6: Sponsor, organize, and participate in special events and outreach opportunities that promote the sanctuary's mission and that allow for dissemination of sanctuary information.

- A. Continue to sponsor and organize an annual Potomac River cleanup.
- B. Explore opportunities to create an annual Malloes Bay-Potomac River National Marine Sanctuary Maritime festival.
- C. Participate in local community events.
- D. Partner with other NOAA programs to participate in regional outreach events.
- E. Present at local, regional, and national workshops and conferences targeted at specific groups including resource managers, and maritime history and archaeology professionals.
- F. Partner with local organizations to organize special activities as part of the annual "Get into Your Sanctuary" Day.

STRATEGY RT-2

Enhance sustainable visitor services to the sanctuary.

Activity 2.1: Explore opportunities to develop a visitor center to enhance education, science, and interpretation of the sanctuary and partner programs, as well as to support ADA requirements.

Activity 2.2: Develop partnerships with commercial kayak operators, fishing guides, watermen, and/or potential boat tour guides to facilitate high quality recreational and heritage tourism experiences in the sanctuary and help educate visitors about the sanctuary's maritime cultural heritage resources, boating safety, and stewardship.

Activity 2.3: Partner with Charles County, the state of Maryland, and interested stakeholders to explore opportunities to develop or enhance tourism infrastructure and visitor services such as food, lodging, equipment, and other amenities.

STRATEGY RT-3

Enhance public access, safety, and responsible use of sanctuary resources.

Activity 3.1: Build upon the Charles County and lower Potomac water trails to develop a sanctuary specific water trail and explore the use of markers, interpretive buoys, or other means of identification at shipwreck sites to facilitate access while protecting shipwrecks from boat or anchor damage and protect the public.

- A. Identify partnerships and establish roles with relevant state agencies, Charles County government, and non-governmental organizations that will collaborate in the development of the water trail.
- B. Develop a phased interpretive plan for the water trail.
- C. Seek funding with partners to implement the interpretive plan.

Activity 3.2: Work with other agencies, local governments, and non-governmental organizations to improve recreational access along the Potomac River.

Activity 3.3: Work with the U.S. Coast Guard, the state of Maryland, Charles County, and other interests to improve channel markers in the sanctuary.

STRATEGY RT-4

Conduct an assessment of the economic impact of the sanctuary.

Activity 4.1: Develop an initial baseline assessment of sanctuary visitation, recreational uses, and intensity and associated economic impacts, and conduct periodic re-evaluations.

Activity 4.2: Use the assessment information to refine marketing and tourism opportunities and promotional products.

4 Education Action Plan

4.1 Purpose

This action plan builds and enhances public understanding and stewardship of the sanctuary, its maritime resources, and the greater Chesapeake watershed, through partnerships with formal and informal education providers and institutions, distance and other web-based learning, and specific educational programs and initiatives.

4.2 Background

Education and expanding environmental literacy is a principal focus of MPNMS. Education is needed to raise public understanding and appreciation of the sanctuary and its resources, encourage public stewardship, and to increase knowledge about Maryland's and our nation's maritime and cultural history.

An Integrated Approach

Education is essential to achieving many of the sanctuary's management objectives and will be used to both complement and promote resource protection, recreation and tourism, and science and technology action plans. Likewise, education at the sanctuary can also help achieve local, state, and regional education goals and standards, including:

- The 2014 Chesapeake Watershed Agreement's Environmental Literacy goal which includes participation in teacher-supported, meaningful watershed educational experiences in elementary, middle, and high school;
- The state of Maryland pre-K-12 curriculum, standards, and graduation requirements for science, history/social studies, STEM education, and environmental literacy; and
- The Maryland Higher Education Commission's vision of ensuring that "Maryland residents have the opportunity to benefit from a higher education that enriches their lives and advances their contributions to civic life, economic development, and social progress of the state."

Education at the sanctuary is envisioned to include formal pre-K-12 education, higher education, and informal programs and initiatives for sanctuary visitors and constituents of all ages. MPNMS is a unique venue and forum for interdisciplinary education and study in the fields of history/social studies, ecology, archaeology, science, technology, engineering, mathematics, art, and sociology. Educational programs and initiatives will involve multiple experiences and methods of delivery including outdoor discovery and investigation at the site, classroom learning, distance and web-based learning, and learning through partner sites, such as the National Aquarium in Baltimore, showcasing exhibits, and programs. Education efforts will strive to enhance understanding of the Chesapeake Bay's and Potomac River's maritime, natural resource, and cultural heritage; the relationship between maritime resources and site ecology; and the role of people in shaping the past and future of these resources. Educational activities will seek to further develop and utilize ways for incorporating observational buoys, remotely operated vehicles (ROV), and other technologies, as well as student and citizen monitoring data into education programs.

Sanctuary objectives included in MPNMS Education Action Plan will be developed using and integrating the goals and priorities of its partner agencies, organizations, and local and state of Maryland school system curriculum requirements as a foundation to guide content. Sanctuary education will seek to coordinate, partner with, and enhance existing initiatives, including NOAA's Bay Watershed Education and Training (B-WET) program and NOAA's Ocean Guardian program, the Charles County Public Schools Nanjemoy Creek Environmental Education Center, and the College of Southern Maryland's credit and non-credit degree programs.

4.3 Action plan goals

The goals of this action plan are to:

- Protect, systematically study, interpret, and manage the extensive archaeological and historical resource base therein through cooperative partnerships with extant educational, county, state, and national agencies, as well as community-based interest groups and professional organizations.
- Develop interpretive programs, exhibits, water trails, and public outreach to schools, community forums, and other interested institutions by relating the pre-history, history, and unique ecological evolution of the sanctuary area and its natural and historical resources, and its relationship to the larger landscape of the American environment and its maritime cultural heritage.
- Provide educational opportunities and field study programs with the Charles County Public School System, the College of Southern Maryland, St. Mary's College, and other regional educational institutions, especially via STEM programs through the site's importance as a living laboratory.
- Enhance federal, state, local, and private partnerships working to conserve and promote the historic, cultural, natural, archaeological, recreational, educational, scientific, and aesthetic resources of the area.

This action plan seeks to close gaps between the existing opportunities for education and the goals stated above. To do so, a focus on the following priorities will be integral to the action plan strategies:

- Expand informal education through outreach programs.
- Partner with Charles County Public School System and other institutions to create county-wide pre-K-12 programming for students and teachers for field experiences at MPNMS with associated classroom support.
- Contribute to efforts that introduce students to advanced technologies related to marine technology, remote sensing, data management and geographic information systems, and software engineering.

4.4 Action plan strategies

STRATEGY ED-1

Partner with state of Maryland, local school systems, and other education providers to develop and begin implementing activities for integrating education about MPNMS and its resources into the formal pre-K-12 curriculum.

Activity 1.1: Develop sanctuary-related in-class, on-site, and web-based education materials and lessons for students aligned with state and local content standards and Chesapeake Bay Program education goals. Include lesson plans for field investigations onsite, classroom materials, and professional development opportunities for teachers.

Activity 1.2: Explore and develop opportunities for an "Adopt a Ship" program for schools, shipboard education, and after-school or day-camp programs in the sanctuary, including workshops and field seminars on sanctuary resources and technologies.

Activity 1.3: Explore and develop opportunities for outside of school, youth enrichment activities related to marine resources careers, to enhance and extend curriculum and promote career exploration and opportunities to gain experience, especially for middle school and high school students.

STRATEGY ED-2

Partner with the College of Southern Maryland, other institutions of higher education, and public and private partners to develop and begin implementing activities for advancing higher education and future career opportunities related to MPNMS and its resources.

Activity 2.1: Develop and seek opportunities to integrate sanctuary content into undergraduate and graduate level courses and explore new degree options in the diverse disciplines associated with the sanctuary.

Activity 2.2: Develop volunteer internship opportunities for college students and explore opportunities to support job training and readiness efforts associated with the sanctuary.

Activity 2.3: Host, organize, and participate in observational buoy, ROV-building, and science and technology workshops and competitions for students of all ages and educators.

Activity 2.4: Work with the College of Southern Maryland to develop an archive for sanctuary-related publications and oral histories.

STRATEGY ED-3

Develop and begin implementing activities for general public education, interpretation, and outreach.

Activity 3.1: Develop and distribute educational materials, multimedia content (including web, social media and video), exhibits, videography, live expedition broadcasts, and a website for the general public.

Activity 3.2: Bring MPNMS content to a national audience through distance learning, a lecture series, and partnerships with organizations, such as the National Aquarium in Baltimore, National Geographic, the WWI Centennial Commission, and Smithsonian Institution.

Activity 3.3: Develop infrastructure to support field-based educational opportunities within the sanctuary.

STRATEGY ED-4

Maximize the impact and effectiveness of education and outreach efforts, including interpretation, through ongoing evaluation.

Activity 4.1: Create a standing working group of education experts from the Sanctuary Advisory Council, local schools, agencies, and other partners to advise on sanctuary education programs.

Activity 4.2: Develop and implement an ongoing system to evaluate and improve education, interpretation, and outreach programs.

5 Research, Science, and Technology Action Plan

5.1 Purpose

This action plan outlines priorities for science, technology development, and research and monitoring to meet the management objectives for the sanctuary and establishes the framework to encourage and integrate a broad range of archaeological and interdisciplinary research by sanctuary partners.

5.2 Background

Increasing the understanding of maritime cultural heritage and ecological resources – and their interdependencies in this maritime cultural landscape – is a primary function of MPNMS. While comparably more is known about the Ghost Fleet, new information continues to be uncovered pertaining to ship locations and physical condition, their history and connections to communities across the country, and to their evolution from merchant ships to being reclaimed by nature. Beyond the Ghost Fleet, significant gaps exist in the understanding of historical and cultural resources throughout the middle Potomac River. Archives hold treasures of historical records, images, and early video that await discovery, validation, and interpretation. Meanwhile, new aerial surveys and scientific efforts are providing updated perspectives on the condition of sanctuary resources, the interaction between the maritime and natural environments, and how they are changing through time. Thus, the role of science is essential to connect these pieces in meaningful ways and to expand access to the information needed to adapt and effectively manage.

This action plan includes three separate, but related science activities: characterization, monitoring, and research. All are important to objectives related to resource protection, as well as to management strategies for recreation, interpretation, and education. The application of technologies such as remote sensing for aerial and underwater surveys, geographic information systems for understanding complex relationships, and web-enabled programs for public communication help ensure that science is translated both efficiently and effectively. Knowledge gained through science activities is used, in cooperation with the public and sanctuary partners, to evaluate existing management strategies, identify emerging threats, and adapt future management actions.

- Characterization is the process through which resources, human uses, and potential threats are inventoried, located, documented, and analyzed.
- Monitoring describes the periodic re-evaluation of the resources, human uses, and potential threats to determine present-day condition and to document changes over time.
- Research can take on different applications, but oftentimes refers to exploring cause and effect relationships between resources, human uses, and potential threats.

5.3 Action plan goals

The four goals of this action plan are to:

- Protect, systematically study, interpret, and manage the extensive archaeological and historical resource base therein through cooperative partnerships with extant educational, county, state, and national agencies, as well as community-based interest groups and professional organizations.
- Study, assess, and interpret the unique and evolving ecosystem as a living laboratory, as well as its integral relationship to the archaeological resource base.
- Enhance federal, state, local, and private partnerships working to conserve and promote the historic, cultural, natural, archaeological, recreational, educational, scientific, and aesthetic resources of the area.
- Facilitate and advance the ongoing restoration of the Chesapeake Bay watershed and in particular, that of “The Nation’s River” (as President Lyndon Johnson once called the Potomac River) by serving as a hub area for research and documentation of environmental change.

This action plan seeks to close gaps between the existing science programs and the goals stated above. To do so, a focus on the following priorities will be integral to the action plan strategies:

Document and characterize the sanctuary’s maritime cultural heritage resources and related ecological resources

To date, no comprehensive survey of the area and characterization of its resources has been completed. These resources include shipwrecks centered on the remains of a World War 1-era fleet and the associated wet infrastructure (i.e., historic piers, wharves, landings) that were defined as significant through their designation on the NRHP in 2015. Additional resources include other known and suspected shipwrecks that are part of the same World War 1-era fleet, but are located in areas outside of the boundary defined by the NRHP under the National Historic Preservation Act, as well as other known and suspected shipwrecks that are not part of the World War 1-era fleet, but have similar qualities pertaining to national significance for Revolutionary War, Civil War, and other periods. Data, most notably associated with the Ghost Fleet, has been compiled primarily through archaeological transects conducted between 1986 and 1996, but that record remains incomplete and out of date.

The area lacks a systematic and validated inventory of the area’s physical and natural features, including their spatial distribution and baseline condition. Filling this gap is a critical first step towards understanding and prioritizing the resources at risk. It will also serve as the basis for numerous educational and interpretive programs and the design of water trails that are the primary means of helping to mitigate potential threats by raising public awareness and appreciation of the resources and encouraging responsible use of the area.

Characterize and monitor threats to sanctuary resources from human uses

Social sciences provide insight into human uses, including those with potential to threaten the resources. In 2010, the opening of Mallows Bay Park created a much needed public access point to the middle portion of the Potomac River, allowing for increased visitation and recreational uses. Since then, additional interest in the area has been generated through local marketing strategies that are promoting a network of outdoor opportunities along the river, as well as attention derived from the national marine sanctuary designation process.

While nearly all on-water activities are compatible with resource protection objectives, one recent incident highlighted the potential human-induced threats to the historical resources and underscored the need for significantly greater educational and public outreach programs to help mitigate improper and/or inadvertent actions. In April 2016, a fire broke out on the most visible of the Ghost Fleet vessels and smoldered for several days. While the exact cause of this incident was not identified, this vessel is the one most often physically accessed by the public as it remains emergent above the water line even at higher tide levels. Thus, it underscores the real threats that exist and the need for greater public awareness regarding stewardship of these resources.

Characterize and monitor the interaction between sanctuary resources and the surrounding environment

A sanctuary provides an important venue to better understand complex interactions and change through time related to sanctuary resources, public priorities for conservation and use, and interactions with the natural environment. It provides a living laboratory to engage the public and a catalyst for focused partnerships that help to achieve a common understanding and allow a forum for more adaptive management strategies. In doing so, the sanctuary also becomes a “sentinel site” within the broader context of the Chesapeake Bay – a place that helps inform conditions at a greater scale and serves as a potential test bed for science and management activities.

Expand public and private partnerships related to a comprehensive science strategy to achieve management objectives

The national brand of a national marine sanctuary acts as a catalyst to attract public and private partnerships. New investments (“of opportunity”) are being made already to initiate a portion of the highest priority science needs. A strategic plan is needed to identify and coordinate science priorities that achieve management objectives and to foster deliberate partnerships to implement actions.

5.4 Action plan strategies

STRATEGY R-1

Characterize the sanctuary’s maritime cultural heritage resources and landscape features.

Activity 1.1: Conduct systematic surveys to locate and identify maritime cultural heritage resources and landscape features.

- A. Conduct an Unmanned Aircraft System (UAS) survey to collect ultra-high resolution imagery of Mallows Bay and create a photomosaic of baseline conditions. Also construct a 3D model of Mallows Bay, including shoreline, ecology, and shipwreck features.
- B. Conduct remote sensing surveys within sanctuary boundaries, including side-scan sonar and Light Detection and Ranging (LIDAR) to understand the location, condition, and structure of the shipwrecks and landscape features.
- C. Disseminate research results to professional and public audiences.

- D. Establish mechanisms and resources to periodically repeat surveys to assess changes to the shipwrecks and associated features.

Activity 1.2: Conduct historical and archival research on potential maritime cultural heritage resources and landscape features in and around the sanctuary.

- A. Research and compile historical documentation relevant to sanctuary resources, including vessel enrollment and registration documents, court records, insurance files, and regional newspapers.
- B. Maintain files and databases on potential shipwrecks and other maritime cultural heritage resources within the sanctuary.
- C. Document oral histories of significant events and community heritage within sanctuary boundaries and on lands adjacent to the sanctuary.
- D. Research and compile historical documentation relevant to the heritage of sanctuary communities, such as Native Americans, African-Americans, and watermen.

Activity 1.3: Establish baseline archaeological documentation of identified maritime cultural heritage resources for long-term monitoring.

- A. Determine priorities for shipwreck and archaeological site research and documentation based on:
 - a. Sites in areas heavily trafficked by recreational users.
 - b. Newly discovered sites susceptible to looting or disturbance.
 - c. Sites of historical significance based on NRHP criteria.
 - d. Sites that may be deteriorating or becoming less accessible as a result of natural and human processes.
- B. Complete baseline documentation of prioritized shipwrecks and archaeological sites including site plans and photo-documentation.
- C. Disseminate documentation results to professional and public audiences.

Activity 1.4: Develop a Sanctuary Geographic Information System (GIS) for archaeological, historical, biological, and geographical data management and dissemination.

- A. Develop a comprehensive database using existing and new data sets.
- B. Maintain and utilize GIS data and create products from the data.
- C. Provide public access to the data via the sanctuary's website.
- D. Provide data via web services to sanctuary partner's websites and data portals.

STRATEGY R-2

Develop a long-term monitoring program for sanctuary maritime cultural heritage sites and surrounding environment.

Activity 2.1: Develop and implement a long-term monitoring plan to determine the natural and human impacts on sanctuary maritime cultural heritage sites.

- A. Develop marine observation infrastructure and capabilities to serve as an ONMS Sentinel Site.
- B. Collect and evaluate existing data to establish baselines.
- C. Establish site-specific requirements for monitoring.

- D. Implement monitoring programs (e.g. water quality, surface elevation tables, vegetation transects, invasive species).

STRATEGY R-3

Build partnership with the College of Southern Maryland's Southern Maryland Studies to curate and manage a Mallows Bay Sanctuary Research Collection.

Activity 3.1: Partner with the College of Southern Maryland to develop a Mallows Bay-Potomac River National Marine Sanctuary Research Collection library and make it accessible to the public.

- A. Ensure collection infrastructure and policies meet archival standards.
- B. Conduct a long-term space evaluation.
- C. Determine and implement digitization priorities.
- D. Ensure the collection is publicly accessible, physically and online.

Activity 3.2: Evaluate opportunities to increase Mallows Bay-Potomac River National Marine Sanctuary Research Collection holdings.

- A. Develop an acquisitions policy for the collection.
- B. Define the scope of the collection.
- C. Actively pursue donation of archival materials.

STRATEGY R-4

Develop partnerships with local, state, national, and international researchers and organizations to enhance sanctuary research programs.

Activity 4.1: Develop partnerships to characterize the sanctuary's maritime cultural heritage resources.

Activity 4.2: Develop partnerships with multi-disciplinary researchers and organizations to study the Potomac River ecology including the study of climate change, invasive species, river biology, benthic ecology, geology, and water quality.

Activity 4.3: Create a standing research working group of multidisciplinary researchers from the Sanctuary Advisory Council, government agencies, academic institutions, and non-governmental organizations to provide input to further develop and implement a comprehensive sanctuary research program.

STRATEGY R-5

Utilize volunteers, students, fellows, and interns for sanctuary characterization, research, and monitoring.

Activity 5.1: Recruit, train, and retain volunteers to assist sanctuary staff on various research projects and with the Mallows Bay-Potomac River National Marine Sanctuary Research Collection.

- A. Recruit and train volunteers to interpret the sanctuary's maritime cultural heritage resources.
- B. Develop a citizen science program and list of research opportunities.

- C. Develop a list of opportunities and needs for the Malloys Bay-Potomac River National Marine Sanctuary Research Collection.

Activity 5.2: Establish partnerships with K-12 schools, universities, colleges, and other institutions to establish a robust program for student research internships and fellowships.

- A. Work with ONMS headquarters and NOAA's Maritime Heritage Program to establish memoranda of agreement with appropriate institutions.
- B. Develop a list of prospective student research projects.
- C. Create an "Adopt-a-Ship" program with K-12 schools to collect prescribed data to supplement a long-term monitoring program if the shipwrecks and surrounding biota.

6 Sanctuary Operations and Administration Action Plan

6.1 Purpose

This action plan identifies sanctuary infrastructure, staffing, and program support needed for effective implementation of the final management plan.

6.2 Background

Appropriate infrastructure, trained personnel and volunteers, safe operations, and adherence to administrative protocols are cornerstones to carrying out the intended purposes of the sanctuary and implementing its management plan. An important up-front need will be to understand the requirements of the final management plan through needs assessments and to identify options for satisfying the highest priority needs. It is anticipated that securing an office location, seating of required staff, and ensuring safety and compliance will be among the initial steps. As the sanctuary will be co-managed, some capacity may be available through partnerships with the state of Maryland or Charles County, although it is likely that significant gaps will exist. NOAA will look to leverage other community partnerships and find ways to help address the remaining priority needs.

6.3 Action plan goals

The goals of this action plan are to:

- Identify and prioritize staff resources and related capacities that are sufficient to implement management plan priorities.
- Identify and prioritize facilities, small boats, buoys, exhibits, signs, and associated infrastructure that are sufficient to implement management plan priorities .
- Develop and implement an annual operating plan for priority management plan actions and to ensure safety and compliance with administrative requirements and protocols.

- Establish a Sanctuary Advisory Council to provide vehicle for ongoing community voice in sanctuary management.

This action plan seeks to close gaps between the existing capacity for sanctuary operations and the goals stated above. To do so, a focus on the following priorities will be integral to the action plan strategies:

Sanctuary staffing

At designation, NOAA will have lead responsibility for the sanctuary and will identify staff who will work alongside the state of Maryland and Charles County as joint managers. For example, NOAA sanctuary superintendents oversee site-specific management functions, including revision and implementation of a sanctuary management plan. Additional staff, as necessary, must have knowledge and expertise in policy, marine resource management, education and outreach, scientific research and monitoring, maritime cultural heritage resources, GIS, information technology, program development, and office administration. Staffing the sanctuary can be implemented using federal staff or contractors, as well as through agreements with state, local, or other partners.

Sanctuary infrastructure

Similar to staff resources, basic infrastructure needs during the designation process have been provided - as needed - by state of Maryland and Charles County partners and local community organizations, most often in the form of periodic meeting space and occasional access to small boats. As appropriate, NOAA hopes to leverage similar support following sanctuary designation. Initially, NOAA will work with state of Maryland and Charles County partners to evaluate options for siting an office that best meets the requirements for sanctuary management and community engagement. Additional infrastructure requirements for small boats, signs, exhibits, and property improvements at local public access points will be considered with state of Maryland and Charles County partners and in accordance with their governing authorities.

Establishing a Sanctuary Advisory Council

Public involvement in sanctuary management is vitally important. Notably, the nomination of MPNMS was made possible by a broad coalition of community organizations, while the sanctuary concept has been shaped further through the diversity of perspectives provided through the public comment period. Upon designation, Section 315 of the NMSA authorizes the Secretary of Commerce to establish a Sanctuary Advisory Council (SAC) at MPNMS. This authority is delegated to the director of the ONMS, who approves council charters and appoints council members. All sites in the ONMS have an advisory council. With a broad expertise and diverse representation, the advisory council offers advice to the sanctuary superintendent on resource management issues that helps ensure that a wide range of viewpoints are provided upon which to base management decisions. In order to better understand and address specific management issues and broaden public involvement, the SAC may extend its capacities as needed by forming temporary issue-specific subcommittees, or working groups, which invite additional community members and experts to participate in the development of sound management advice for the sanctuary. The SAC evaluates the working group recommendations and in turn makes its final recommendations to the sanctuary superintendent.

ONMS will consult with the state of Maryland and Charles County in determining the composition of the SAC in accord with the National Marine Sanctuary Advisory Council Implementation Handbook (Handbook; 5th Ed. rev. Jul. 2015), which may be found at:

<https://sanctuaries.noaa.gov/management/ac/welcome.html>. The following process steps provide an opportunity for state and county information-sharing and input:

- Drafting the SAC charter: A SAC is established when the ONMS director approves and signs the SAC's charter. The charter serves as the constitution for the operation of the SAC. The charter defines the scope of the SAC's roles and responsibilities including member composition, member selection, and appointment process. The charter also provides detailed information on the function and administration of the SAC. As joint managers, and consistent with the purposes and policies of MPNMS, the state and county can be involved in drafting the charter by providing input on, among other things, the member balance/SAC composition, administration of the SAC, noticing meetings, and meeting operations. For more information on charters, see pages 15-16 and Appendix A of the handbook.
- Appointing the state's member/alternate: Under our handbook processes, each state that is given a non-voting government seat on the SAC is responsible for appointing its representative and alternate. The county will be provided a similar non-voting government seat, and will be responsible for appointing its representative and alternate. The state and county's representative and alternate are not subject to the ONMS approval process for voting members. For more information, see page 24 of the handbook.
- Soliciting members: The state and county may be involved in preparing application packages and soliciting vacancies on the SAC website, which is maintained by ONMS.
- Preliminary review team: The review panel for the first member selection process is composed of federal and state agency partners (handbook, page 25). As such, the state is part of the initial review panel that reviews applications and provides recommendations to the ONMS director on member appointments. Final appointments are subject to the approval of the ONMS director.
- Meetings: Subject to the SAC charter, state and county representatives may participate in the SAC and, as part of SAC meetings, as non-voting members in order to maximize user/constituent input.
- Advice: The SAC provides advice and recommendations to the ONMS director, typically via the site superintendent. The superintendent and/or ONMS Director may share this advice with the state and county as joint managers. In doing so, it is important to ensure the SAC processes for transmitting advice are followed, so that the joint managers do not inadvertently run afoul of the fundamental NMSA requirement that the SAC is formed to provide advice and recommendations to ONMS.

6.4 Action plan strategies

STRATEGY SO-1

Conduct a needs assessment to identify staffing requirements and priorities. Consider and coordinate staffing needs to optimize expertise and opportunity for federal programs, state and local agencies, other partners, and volunteers.

Activity 1.1: Incrementally fulfill priority staffing needs in accordance with management plan requirements.

Activity 1.2: Identify and develop legal mechanisms for sanctuary joint management, including policy, financial resources, infrastructure, and program operations. As appropriate, develop cooperative agreements, MOAs/MOUs, joint enforcement agreements, emergency response protocols, and other shared actions.

Activity 1.3: Establish volunteer and docents programs to develop a system of public involvement to support the sanctuary program.

STRATEGY SO-2

Conduct a needs assessment and requirements document for facilities, exhibits, and other infrastructure, as well as requirements for operations and maintenance.

Activity 2.1: Identify and establish location for administrative offices and field site(s) as appropriate.

Activity 2.2: Identify and begin to secure priority infrastructure to support sanctuary operations and/or to enhance visitor experience.

- A. Conduct a study to assess and determine the carrying capacity of the sanctuary.
- B. Enhance capacity, as appropriate, at public access points for potable water, plumbing/restrooms, electricity, and internet.
- C. Enhance capacity, as appropriate, at public access points (e.g., parking, walking trails) and safety (e.g., lighting, signs).

Activity 2.3: Identify and begin to establish interpretative facilities, kiosks, and signs.

- A. Explore requirements associated with signs at boat ramps, local parks, local roadways, and other appropriate locations.
- B. Explore need for information kiosks at appropriate locations.

Activity 2.4: Explore requirements and options for a visitor center for the purposes of tourism, education, interpretation, and/or science.

- A. Conduct a feasibility study to consider purpose, public access, visitor experience, and leveraging opportunities.
- B. Develop an implementation plan for a science and education center based on the feasibility study.

Activity 2.5: Explore requirements and opportunities for conservation of sanctuary resources such as artifacts, oral histories, and document collections.

Activity 2.6: Explore opportunities through the Charles County comprehensive plan, state of Maryland, and other local planning efforts to support sanctuary objectives and accommodate anticipated increases in visitation.

- A. Enhance infrastructure (e.g., roads and directional signs on local roadways) and promote enhancement of visitor services (e.g., local vendors).
- B. Explore options for siting of possible visitor center.
- C. Explore options and need for siting of buoys and/or water trail markers.

STRATEGY SO-3

Conduct a needs assessment and requirements document for small boats and related infrastructure as well as requirements for staffing, operations, and maintenance.

Activity 3.1: Develop a requirements document detailing needs for small boats, such as emergency response, science, education, recreation/tourism, and enforcement.

Activity 3.2: Incrementally fulfill priority small boat needs.

- A. Utilize, as appropriate, partner capacities and expertise.
- B. Explore options for filling priority gaps through a range of mechanisms such as direct purchase, partnerships, and contract support.
- C. Identify and develop legal mechanisms for small boat management, including policy, financial resources, infrastructure, program operations, training, and safety.

Activity 3.3: Identify need and develop an emergency response capacity related to small boats.

- A. Identify threats, on-water requirements, and existing response capacity and authority.
- B. Develop/enhance contingency and emergency response plans.
 - a. Work with United States Coast Guard to incorporate MPNMS into the Area Contingency Plan.
 - b. Develop protocols and agreements necessary to respond to emergencies, and provide training for staff.

STRATEGY SO-4

Develop an operations plan for day-to-day management of facilities, small boats, personnel, and safety.

Activity 4.1: Ensure compliance with operational and environmental regulations, security, policies, and procedures at federal, state, and local levels.

Activity 4.2: Develop a continuity of operations plan.

Activity 4.3: Develop a safety plan and implement periodic training of staff and partners.

Activity 4.4: Develop a disaster plan for environmental or maritime emergencies.

Activity 4.5: Develop plan to ensure safety of visitors and recreational users, including implementing voluntary reporting of visitor use and emergency contact information as appropriate.

STRATEGY SO-5

Develop partnerships and resources to support sanctuary operations programs and infrastructure.

Activity 5.1: Explore potential partnerships that align with sanctuary management plan priorities and requirements and develop formal partnerships and agreements as appropriate.

Activity 5.2: Partner with the National Marine Sanctuary Foundation to implement management plan priorities, expand communications to constituents, and leverage partnerships.

Activity 5.3: Establish a local “Friends” group and/or formalize a “Partnership” for Mallow's Bay-Potomac River National Marine Sanctuary to conduct local programming, community engagement, and support fiduciary requirements.

STRATEGY SO-6

Establish and operate a Sanctuary Advisory Council.

Activity 6.1: Identify, process, and seat 15 advisory council representatives that reflect the diversity of partners and local stakeholder groups.

Activity 6.2: Provide guidance and support to the SAC to develop council charter, in compliance with National Sanctuary Advisory Council Guidelines.

Activity 6.3: Establish SAC meeting schedule and convene periodic meetings.

Activity 6.4: Provide support, resources, and guidance to train SAC members and educate the public about sanctuary management issues and ensure that SAC members are a respected voice in the community.

FMP Appendices

FMP Appendix 1: Strategy crosswalk

FMP Appendix 2: Potential sanctuary operating budgets and partner contributions

FMP Appendix 1: Strategy crosswalk

	Resource Protection	Recreation & Tourism	Education	Research, Science, & Tech	Sanctuary Ops & Admin
RP 1.1: Ensure sufficient enforcement presence in the sanctuary through partnerships and interagency coordination.				R 1.0	SO 3.1 SO 3.3 SO 4.3 SO 4.4
RP 1.2: Use interpretive enforcement as a tool to inform users about sanctuary regulations.		RT 1.5 RT 3.3			SO 3.1 SO 3.3
RP 2.1: Monitor use of sanctuary resources in order to better understand user groups, patterns, and the effects on use of the resources.		RT 1.4 RT 2.2		R 2.1	
RP 3.1: Provide practical information for users such as shipwreck identification maps and information, access points, regulations, and contact information.		RT 1.3 RT 1.4 RT 3.1	ED 3.1		
RP 3.2: Install trail/guidance/mooring buoys at shipwreck sites and along paddling routes to prevent anchor damage and to facilitate approach in a manner that protects from damage.		RT 1.5 RT 3.1			SO 2.3
RP 3.3: Explore the development of "certification programs" for local businesses and activities that actively promote recreational etiquette and stewardship of sanctuary resources.		RT 1.2			SO 5.1
RP 3.4: Work with other agencies, local governments, and non-governmental organizations to improve public access along the Potomac River.		RT 1.5 RT 3.2		R 1.1	SO 2.2 SO 2.4 SO 2.6
RP 4.1: Conduct assessment of wrecks and determine best approaches to in situ conservation that encourages public access/interpretation while protecting natural resources.				R 1.1 R 1.3 R 2.1 R 4.1	
RP 4.2: Develop an agreement with the Maryland Archaeological Conservation Laboratory for treatment and curation of artifacts.				R 4.1	SO 2.5 SO 5.1
RP 4.3: Establish membership criteria and procedures to establish an accessions committee to evaluate donation criteria, accept artifacts previously removed or tied to the history of the ships and area, and artifact handling policies in regard to exhibits, loans, and selected access to collections.					SO 2.5
RP 4.4: Make artifacts available to the public and to professionals via exhibits, loans, and selected access to the artifact collection.				R 3.1	SO 2.5
RT 1.1: Partner with the state of Maryland and Charles Co. offices of tourism, the Southern Maryland Heritage area, the Charles Co. Chamber of Commerce and the Maryland WWI Centennial Commission to develop and implement a marketing and communications plan to promote the sanctuary.			ED 3.2		SO 5.1

RT 1.2: Explore co-marketing and co-branding opportunities for recreation and tourism with the commonwealth of Virginia and local counties.	RP 3.3				
RT 1.3: Develop basic outreach materials for a wide variety of users that encourage responsible and safe use of sanctuary resources.	RP 3.1		ED 3.1		
RT 1.4: Develop a website and mobile based application to provide quality, up-to-date information about the sanctuary, including implementing web 2.0 components to encourage collaboration and interaction with the public.	RP 2.1 RP 3.1		ED 1.1 ED 3.1		
RT 1.5: Develop and provide wayfinding and interpretive signs for the sanctuary.	RP 1.2 RP 3.2 RP 3.4				SO 2.3
RT 1.6: Sponsor, organize, and participate in special events and outreach opportunities that promote the sanctuary's mission and that allow for dissemination of sanctuary information.			ED 1.2 ED 2.3		SO 5.2 SO 5.3
RT 2.1: Explore opportunities to develop a visitor center to enhance education, science, and interpretation of the sanctuary and partner programs, as well as to support ADA requirements.					SO 2.2 SO 2.3 SO 2.4
RT 2.2: Develop partnerships with local operators and guides to facilitate high quality recreational and heritage tourism experiences in the sanctuary and help educate visitors about MPNMS maritime cultural heritage resources, boating safety, and stewardship.	RP 2.1		ED 1.2 ED 3.3		SO 3.1 SO 4.3 SO 4.4 SO 4.5 SO 5.3
RT 2.3: Partner with Charles County, the state of Maryland, and interested stakeholders to explore opportunities to develop or enhance tourism infrastructure and visitor services.					SO 2.6 SO 5.3
RT 3.1: Build upon existing water trails to develop a MPNMS water trail and explore the use of markers, interpretive buoys, or other means of identification at shipwreck sites to facilitate access while protecting shipwrecks and the public.	RP 3.2				
RT 3.2: Work with other agencies, local governments, and non-governmental organizations to improve recreational access along the Potomac River.	RP 3.4		ED 3.3		SO 4.4
RT 3.3: Work with the U.S. Coast Guard, the state of Maryland, Charles County, and other interests to improve channel markers in the sanctuary.	RP 1.2				SO 3.3 SO 4.3 SO 4.4
RT 4.1: Develop an initial baseline assessment of sanctuary visitation, recreational uses, and intensity and associated economic impacts, and conduct periodic re-evaluations.					
RT 4.2: Use the assessment to refine marketing and tourism opportunities and promotional products.					
ED 1.1: Develop sanctuary-related in-class, on-site and web-based education materials and lessons for students aligned with state and local content standards and Chesapeake Bay Program education goals.		RT 1.4			

ED 1.2: Explore and develop opportunities for an "Adopt a Ship" program for schools, shipboard education, and day-camp or overnight programs in the sanctuary, including workshops and field seminars on sanctuary resources and technologies.		RT 1.6 RT 2.2		R 5.2	
ED 1.3: Explore and develop opportunities for outside of school, youth enrichment activities related to marine resources careers, to enhance and extend curriculum and promote career exploration and opportunities to gain experience, especially for middle school and high school students.					
ED 2.1: Develop and seek opportunities to integrate sanctuary content into undergraduate and graduate level courses and explore new sanctuary-related degree options.				R 5.2	
ED 2.2: Develop internship opportunities for college students and explore opportunities to support sanctuary-related job training and readiness efforts.				R 5.2	
ED 2.3: Host, organize, and support observational buoy, ROV-building, and science and technology workshops and competitions for students of all ages and educators.		RT 1.6		R 5.2	
ED 2.4: Work with the College of Southern Maryland to develop an archive for sanctuary-related publications and oral histories.				R 1.2 R 3.1 R 3.2	SO 2.5 SO 5.1
ED 3.1: Develop and distribute educational materials, multimedia content, exhibits, videography, live expedition broadcasts, and a website for the general public.	RP 3.1	RT 1.3 RT 1.4		R 1.4	
ED 3.2: Bring MPNMS content to a national audience through distance learning, lectures, and partnerships with organizations such as the National Aquarium, National Geographic, the World War 1 Centennial Commission, and the Smithsonian.		RT 1.1			SO 5.1 SO 5.3
ED 3.3: Develop infrastructure to support field-based educational opportunities within the sanctuary.		RT 2.2 RT 3.2		R 4.2	
ED 4.1: Create a standing working group of education experts from the SAC, local schools, and agencies to advise on sanctuary education programs.					SO 6.1
ED 4.2: Develop and implement an ongoing system to evaluate and improve education and outreach programs.					SO 4.5
R 1.1: Conduct systematic surveys to locate and identify maritime cultural heritage resources and landscape features.	RP 4.1				
R 1.2: Conduct historical and archival research on potential maritime cultural heritage resources and landscape features in and around the sanctuary.	RP 4.1		ED 2.4		
R 1.3: Establish baseline archaeological documentation of identified maritime cultural heritage resources for long-term monitoring.	RP 4.1				

R 1.4: Develop a Sanctuary GIS for data management and dissemination.			ED 3.1		
R 2.1: Develop and implement a long-term monitoring plan to determine the natural and human impacts on sanctuary maritime cultural heritage sites.	RP 2.1 RP 4.1				
R 3.1: Partner with the College of Southern Maryland to develop a MPNMS Research Collection library and make it accessible to the public.	RP 4.4		ED 2.4		SO 2.5
R 3.2: Evaluate opportunities to increase MPNMS Research Collection holdings.			ED 2.4		
R 4.1: Develop partnerships to characterize the sanctuary's maritime cultural heritage resources.	RP 4.1 RP 4.2				
R 4.2: Develop partnerships with multi-disciplinary researchers and organizations to study the Potomac River ecology.	RP 4.2		ED 3.3		
R 4.3: Create a standing research working group of multidisciplinary researchers from the SAC, government agencies, academic institutions, and non-governmental organizations to provide input to further develop and implement a comprehensive sanctuary research program.					SO 6.1
R 5.1: Recruit, train, and retain volunteers to assist sanctuary staff on various research projects and with MPNMS Research Collection.					SO 1.3
R 5.2: Establish partnerships with K-12 schools, universities, colleges, and other institutions to establish a robust program for student research internships and fellowships.			ED 1.2 ED 2.1 ED 2.2 ED 2.3		
SO 1.1: Incrementally fulfill priority staffing needs.					
SO 1.2: Identify and develop legal mechanisms for sanctuary joint management, including policy, financial resources, infrastructure, and program operations. As appropriate, develop cooperative agreements, MOAs/MOUs, joint enforcement agreements, emergency response protocols, etc.					
SO 1.3: Establish volunteer and docents programs to develop a system of public involvement to support the sanctuary program.				R 5.1	
SO 2.1: Identify and establish location for administrative offices and field site(s) as appropriate.					
SO 2.2: Identify and begin to secure priority infrastructure to support sanctuary operations and/or to enhance visitor experience.		RT 2.1			
SO 2.3: Identify and begin to establish interpretative facilities, kiosks, and signs.	RP 3.2	RT 1.5 RT 2.1			
SO 2.4: Explore requirements and options for a visitor center for the purposes of tourism, education, interpretation, and/or science.		RT 2.1			

SO 2.5: Explore requirements and opportunities for conservation of sanctuary resources such as artifacts, oral histories, and document collections.	RP 4.2 RP 4.3 RP 4.4		ED 2.4	R 3.1	
SO 2.6: Explore opportunities through the Charles County comprehensive plan, state of Maryland, and other local planning efforts to support sanctuary objectives and accommodate anticipated increases in visitation.	RP 3.4	RT 2.3 RT 3.2			
SO 3.1: Develop a requirements document detailing needs for small boats, such as emergency response, science, education, recreation/tourism, and enforcement.	RP 1.1 RP 1.2	RT 2.2			
SO 3.2: Incrementally fulfill priority small boat needs.	RP 1.1				
SO 3.3: Identify need and develop an emergency response capacity related to small boats.	RP 1.1 RP 1.2	RT 3.3			
SO 4.1: Ensure compliance with operational and environmental regulations, security, policies, and procedures at federal, state and local levels.					
SO 4.2: Develop a continuity of operations plan.					
SO 4.3: Develop a safety plan and implement periodic training of staff and partners.	RP 1.1	RT 2.2 RT 3.3			
SO 4.4: Develop a disaster plan in case of environmental or maritime emergencies.	RP 1.1	RT 2.2 RT 3.2 RT 3.3			
SO 4.5: Develop plan to ensure safety of visitors and recreational users, including implementing voluntary reporting of visitor use and emergency contact information as appropriate.		RT 2.2	ED 4.2		
SO 5.1: Explore potential partnerships that align with sanctuary management plan priorities and requirements and develop formal partnerships and agreements as appropriate.	RP 3.3 RP 4.2	RT 1.1	ED 2.4 ED 3.2		
SO 5.2: Partner with the National Marine Sanctuary Foundation.		RT 1.6			
SO 5.3: Establish a local "Friends" group and/or formalize a "Partnership" for MPNMS to conduct local programming, community engagement, and support fiduciary requirements.		RT 1.6 RT 2.2 RT 2.3		R 3.2	
SO 6.1: Identify, process, and seat 15 advisory council representatives that reflect the diversity of partners and local stakeholder groups.			ED 4.1	R 4.3	
SO 6.2: Provide guidance and support to the SAC to develop a Council Charter, in compliance with National SAC Guidelines.					
SO 6.3: Establish SAC meeting schedule and convene periodic meetings.					
SO 6.4: Provide support, resources, and guidance to train SAC members and educate the public about sanctuary management issues and ensure that SAC members are a respected voice in the community.					

FMP Appendix 2: Potential sanctuary operating budgets and partner contributions

The potential operating budget below is an estimate to show options for activities that can be funded at varying levels. The base level of operations characterized below can be executed within existing funds without any negative impact on the National Marine Sanctuary System as a whole. In this table each column's list of activities for a given funding level also includes all activities from preceding columns. The operating budget each year for the proposed sanctuary would be contingent on several factors, including the overall operation budget for ONMS and spending priorities determined by ONMS and NOAA. In addition, the budget may also include “construction” funds to support infrastructure capital and maintenance. These would be contingent on factors similar to the operational funds.

\$250,000	\$450,000	\$550,000	\$650,000	\$750,000
Sanctuary designation	Identify program and operations coordinator	Identify research coordinator, maritime heritage coordinator, education coordinator, or resource protection coordinator	Identify research coordinator, maritime heritage coordinator, education coordinator, or resource protection coordinator	Identify research coordinator, maritime heritage coordinator, education coordinator, or resource protection coordinator
Establish Sanctuary Advisory Council	Identify research coordinator, maritime heritage coordinator, education coordinator, or resource protection coordinator	Continue to implement management plan priorities	Construct visitor center and related infrastructure	Fully implement management plan
Establish administrative office(s) - could be temporary initially	Establish fully operational Sanctuary Advisory Council	Expand STEM education and technology training programs through partnerships	Continue to implement management plan priorities	Finalize sanctuary Condition Report
Identify sanctuary superintendent	Continue to implement management plan priorities	Expand priority strategies and signs to enhance awareness and interpretation of sanctuary and resources	Expand priority strategies and signs to enhance awareness and interpretation of sanctuary and resources	Initiate review of management plan with partners, community, and Sanctuary Advisory Council
Develop/expand programs to enhance awareness and interpretation of sanctuary and resources	Expand partnerships for economic development and small business opportunities	Continue fundraising strategy for visitor center and related interpretative products	Initiate sanctuary Condition Report	Fully operate visitor center
Develop/expand partnerships for economic development, branding, and small business opportunities	Implement priority strategies and signs to enhance awareness and interpretation of sanctuary and resources	Expand acquisition/operation of priority vessel/kayak capacities		
Develop/expand on-water access and programs	Develop/expand volunteer network			
Establish resource protection program with focus on informational markers, initiate law enforcement collaborations, and develop/expand safety and emergency response capacities	Expand resource protection programs through informational markers and outreach			
	Develop fundraising strategy for visitor center and related interpretative products			

\$250,000	\$450,000	\$550,000	\$650,000	\$750,000
Expand partnerships for sanctuary characterization	Expand recreation/tourism/co-branding opportunities with Maryland, Virginia, and federal park systems			
Establish a local sanctuary foundation				
Conduct requirements studies for infrastructure - visitor center, vessel/kayaks, buoys, exhibits, and signs	Acquire/operate priority vessel/kayak capacities			

Partner Contributions

As first set forward in the sanctuary nomination (September 2014), the state of Maryland, through the Maryland DNR, MHT, other state agencies, as well as Charles County, Maryland agencies are committed partners to ensure the proposed MPNMS reaches its full potential. Areas of collaboration that will supplement and complement federal funding address all aspects of the draft management plan including resource protection, education, interpretation, recreation, tourism and marketing, science and technologies, and sanctuary operations. Similar to the federal government, these agencies are not able to commit funds beyond the current fiscal year and must balance obligations across competing priorities, however, much of the support is available through staff time, continuation of existing programming, and equipment. Additionally, their involvement already has proven to be invaluable in terms of leveraging significant investments from numerous public and private institutions to initiate some of the priority programs in this Final Management Plan.

Maryland Historical Trust

- The steward of historic cultural resources and the Maryland Maritime Archaeology Program, which addresses such remains in submerged or semi-submerged contexts.
- Assist with compliance with Section 106 of the NHPA for placement of kayak launches and buoys, and may be able to aid in seasonal deployment and retrieval of buoys.
- Occasional access to small boats for science, education, outreach, and emergency response.
- Assist development of emergency planning and plans. Qualified to participate in certain federally mandated response activities that threaten resources, such as oil spills.
- Training for staff, such as emergency first response (first aid, CPR, AED) and dive-related (oxygen provision).
- Assist with the development of interpretive enforcement materials and plans.
- Assist with research and technology training programs.
- Partner for grant applications and occasionally, when possible, may be able to assist with funding some projects.
- Assist with education and public outreach through planning, community engagement activities, and related products and services.
- Active involvement in sanctuary management through the Sanctuary Advisory Council.

Maryland Department of Natural Resources (DNR)

- Active involvement in sanctuary management through the Sanctuary Advisory Council.
- Liaison to multiple stakeholders and partners throughout the coastal zone, including but not limited to: the recreational and commercial fishing community; the Sport & Tidal Fisheries Advisory Commissions; the Potomac River Fisheries Commission; and recreational users, such as hunters, paddlers, cyclists, bird-watchers, etc.
- Assistance with development and implementation of public outreach and education programs.
- Capacity to gather and host Geographic Information Systems (GIS) data, fisheries resource data, wildlife resource data, and other data as needed.
- Technical and financial assistance available through the Maryland Coastal Zone Management Program.
- Host Mallows Bay website with current activities and updates, and Flickr photo album.
- Coordinate and issue press releases, DNR newsletters and magazine, and publicity events.
- Provide water vessels on an as needed basis.
- Coordinate with Nanjemoy Natural Resource Management Area and Smallwood State Park.
- Hydrographic assistance available for buoy/water trail marker procurement and deployment.
- Cooperative enforcement opportunities with the Maryland Natural Resource Police.

Charles County, Maryland

- Continue to manage Mallows Bay Park consistent with the park plan and the lease with the DNR.
- Seek to improve the facilities at Mallows Bay Park, to include an expanded kayak launch facility, a kayak for-hire vendor, and a boat to improve safety and management, as budget and DNR lease agreement allow.
- Continue to employ docents to manage Mallows Bay Park.
- Continue to provide security and a police presence at Mallows Bay Park.
- Continue to provide and expand public outreach and tourism services to promote Mallows Bay Park, such as the “Get Wrecked at Mallows Bay” marketing campaign.
- Continue to provide and expand public outreach and tourism services to promote Mallows Bay Park.
- Active involvement in sanctuary management through the Sanctuary Advisory Council.

APPENDIX B: Additional State of Maryland authorities

This appendix identifies statutory authority from the Environment Article, the Natural Resources Article, and the State Finance and Procurement Article of the Maryland Annotated Code that is potentially applicable to Malloys Bay. This document does not include any statutory authority from other areas of the code, such as the Agriculture, Transportation, Land Use, or Public Utilities articles, that may also have applicable law.

I. ENVIRONMENT ARTICLE

- a. Sediment Control (ENV Title 4, Subtitle 1)
 - i. Statewide oversight and procedures for counties and Soil Conservation Districts (SCDs) to implement soil erosion control programs; grading and building permits for land disturbance activities issued by county or SCD in compliance with subtitle; some counties have delegated enforcement authority; for others, Department of the Environment (MDE) responsible for enforcement
- b. Stormwater Management (ENV Title 4, Subtitle 2)
 - i. Management of stormwater necessary to reduce stream channel erosion, pollution, siltation, sedimentation, and local flooding, all of which have adverse impacts on water and land resources of Maryland; do environmental site design; county MS4 permits; watershed protection and restoration plans (fee)
 - ii. County must approve Stormwater Management (SWM) plans before grading/building permits issued; MDE review of county SWM programs every three years
- c. Water Pollution Control and Abatement (ENV Title 4, Subtitle 4)
 - i. Public policy to improve, conserve, and manage the quality of the waters of the state and protect, maintain, and improve the quality of water for public supplies, propagation of wildlife, fish and aquatic life, and domestic, agricultural, industrial, recreational, and other legitimate beneficial uses
 - ii. MDE may develop comprehensive programs and plans for prevention, control, and abatement of pollution of the waters of the state by oil or sediment
 - iii. Oil spill prevention; emergency oil spillage program and plan; transfer, storage, treating, transport of oil to prevent water pollution; bonding required for vessels carrying or receiving 25 barrels or more of oil; requirements on USTs; liability for oil spills
 - iv. A person may not place sediment in a position likely to pollute
- d. Appropriation or Use of Waters, Reservoirs, and Dams (ENV Title 5, Subtitle 5)
 - i. Must have permit to use or appropriate surface or groundwaters of the state
 - ii. Must have permit to construct structures (e.g., dams, reservoirs, culverts, bridges) in any waters of the state including the 100-year nontidal floodplain; must have permit to change in whole or part the course, current, or cross-section of any stream or body of water within the state (except tidal)
 - iii. Must get permit to construct conduit, pipeline, wire cable, trestle, or other device, structure, or apparatus in, under, through, or over the bed or waters of the Potomac River
- e. Maryland Water Conservation (ENV Title 5, Subtitle 5a)
 - i. Revised permit granting significant increase in withdrawal of water authorized under existing water appropriation permit for public water systems serving at least 10,000 individuals; specific BMPs required
- f. Nontidal Wetlands (ENV Title 5, Subtitle 9)

- i. Avoid and minimize impacts to nontidal wetlands; permit required for regulated activities in nontidal wetlands (removal, excavation, grading, dumping, etc.); mitigation for loss of nontidal wetlands
- g. Chesapeake Bay and Tributaries (ENV Title 5, Subtitle 11)
 - i. No open water dumping of dredge material
 - ii. Beneficial use of dredged material includes island restoration, shoreline stabilization, fish/shellfish habitat creation, restoration, etc.; oversight committees; Hart-Miller Island; dredged material management exec committee
- h. Hazardous Materials (ENV Title 7)
 - i. Must have permit to transfer hazardous materials; must have permit to store, discharge, treat, or dispose of controlled hazardous substance; subject to penalties if Title 7 violated
- i. Water, Ice, Sanitary Facilities: Regulations by State (ENV Title 9, Subtitle 2)
 - i. Permit required for any water supply systems, sewerage systems, refuse disposal systems that is a solid waste acceptance facility; sewage treatment plant; authority for public water supply system regulations; used tire cleanup and recycling fund; coal combustion by-products fund; Coal Combustion Byproducts (CCB) permits;
 - ii. NOTE: Other sewer-related authority at Title 9, Subtitles 5-9 (sanitary commissions, county water & sewer plans, sewerage facilities bond act; water and sewer authorities, etc.)
- j. Water Pollution Control (ENV Title 9, Subtitle 3)
 - i. Discharge permits (Maryland National Pollutant Discharge Elimination System (NPDES) permits)
 - ii. Water quality and effluent standards
 - iii. No discharge into waters of the state w/o first receiving necessary treatment or other corrective action to protect legitimate beneficial uses of the waters of the state
- k. Gas and Oil (ENV Title 14)
 - i. Drilling and production of oil and gas should be conducted in a manner that will minimize effects on surrounding environment; must have permit prior to well for exploration, production, or underground storage of gas or oil in the state
 - ii. A person may not drill for oil or gas in the waters of the Chesapeake Bay (CB), any of its tribes, or in the CB Critical Area
 - iii. Permit required to conduct seismic operations but permit may be denied if activity poses substantial risk of environmental damage to CB, Critical Area, nontidal wetland, Maryland Rare, Threatened, and Endangered (RTE) animals, designated archaeological site and that cannot be mitigated; prohibition on using explosives in seismic operations conducted on the waters of the Chesapeake Bay and its tributaries; hydraulic fracturing regulations to be developed; specifies well locations; Prince George's County underground storage of gas, acquired by gas storage company, eminent domain available; MDE to prescribe rules to permit to drill natural gas storage operations, those rules may contain restrictions necessary in the public interest to protect the waters of the state, including subsurface and percolating waters; interstate oil and gas compact
- l. Coastal Facilities Review Act (ENV Title 14, Subtitle 5)
 - i. Applies to crude oil storage facility and natural gas facility (including pipelines) in the coastal area;
 - ii. Must obtain permit prior to construction of facility
- m. Wetlands and Riparian Rights (ENV Title 16)

- i. License/permit required for dredging and filling state and private tidal wetlands; includes piers/platforms, shoreline erosion control projects
- n. Water Quality Certifications (COMAR 26.08.02.10)
 - i. Establishes the process by which Maryland issues a water quality certification

II. NATURAL RESOURCES ARTICLE

- a. Natural Resources Police Force (NR Title 1, Subtitle 2)
 - i. Responsibility for protecting the natural resources of the state is vested in the Natural Resources Police Force within Department of Natural Resources (DNR); public safety agency with authority to enforce conservation, boating, and criminal laws
- b. Recreational Use of the Potomac River (NR Title 1, Subtitle 6)
 - i. Policy of the state to foster water safety for recreational uses of Potomac River; responsible for administering program of water safety for recreational uses of the hazardous section of the Potomac
- c. Fish & Fisheries (NR Title 4, Subtitle 2)
 - i. DNR is responsible for conservation management of the fish, fisheries, fish resources, and aquatic life within the state; nuisance organisms (nonnative aquatic organism), inspections, abatement orders (4-205.1); DNR shall manage fisheries for benefit of all the citizens of the state (4-215.3)
- d. Endangered Species of Fish Conservation Act (NR Title 4, Subtitle 2A)
 - i. Protect endangered and threatened fish
- e. Potomac River Compact & Potomac River Fisheries Commission (NR 4-306 and 4-307)
 - i. Establishes Potomac River Fisheries Commission (PRFC); PRFC may adopt rules and regulations as may be necessary for authorizing and regulating the dredging of oysters, etc.
- f. State Fish Refuges and Hatcheries in Tidal and Nontidal Water (NR Title 4, Subtitle 4)
 - i. DNR may acquire any area of water or land suitable to protect, propagate, or manage fish, shall be called state fish refuge
- g. Licensing, Regulation, and Supervision of Fishing and Fisheries in Tidal Waters (NR Title 4, Subtitle 7)
 - i. Restrictions on licenses, fees, registrations, permits; specifications for certain counties; etc.
- h. Crabs (NR Title 4, Subtitle 8)
 - i. DNR may adopt rules/ regulations related to blue crabs; license required to operate vessels to catch crabs; restrictions on picking, canning, packing crab meat; size and number restrictions; commercial crab fishing, additional crew authorizations; non-native crab species
- i. Lobster, Terrapin, Conch (NR Title 4, Subtitle 9)
 - i. Lobster rules, regulations; taking or possession of terrapin; rules/ regulations related to diamondback terrapin; must have license before catching conch for commercial purpose
- j. Oysters & Clams (NR Title 4, Subtitle 10)
 - i. General provisions related to oysters and clams; areas off limits; mechanical means prohibited; Submerged Aquatic Vegetation (SAV) protection zones; clam dredge restrictions; seasons; seed oysters, daily catch limits; Natural Oyster Bars (NOBs); dredging requirements; sales reports; oyster sanctuaries; hard shell clams; soft shell clams; surf clams and quahogs
- k. Oysters and Clams Culture (NR Title 4, Subtitle 11)

- i. Resurvey of submerged areas of the state; NOBs and seed areas; Potomac river seed areas; areas closed/reserved for oyster seed propagation; destruction or damage to NOBs prohibited
- l. Aquaculture (NR Title 4, Subtitle 11a)
 - i. May adopt aquaculture regulations; aquaculture review board; coordinating council; public shellfish fishery areas; submerged land leases; fees; water column leases; demonstration leases; recordkeeping; oyster propagation research; permit for commercial rearing of shellfish seeds
- m. Forest Conservation Act (NR Title 5, Subtitle 16)
 - i. Local government shall develop local forest conservation program consistent with Subtitle 16; applicant for subdivision or grading or sediment control permits (greater than 40,000 square feet) shall submit forest stand delineation; forestation, afforestation, reforestation requirements; review of forest conservation and subdivision plans; forest mitigation banks; variances; reporting
- n. Leasing of State Oil and Gas Resources (NR Title 5, Subtitle 17)
 - i. Board of Public Works (BPW) shall adopt regulations establishing procedures and standards for awarding any oil or natural gas lease for production or reserve under lands or waters of the state; lessee must obtain lease prior to being put into production; lease cannot preclude/interfere with public or private harvesting of finfish or shellfish
 - ii. NOTE: BPW did not develop oil/gas regulations
- o. Conservation and Management of State Waters – in General (NR Title 8, Subtitle 2)
 - i. DNR shall be responsible for planning, development, management, and conservation of the Chesapeake Bay and any other tidal waters, including their shoreline and bottom and any resources associated with these waters ... DNR may plan and develop public recreational facilities, etc.; coordinates public access to Chesapeake Bay and tributaries
- p. State Boat Act (NR Title 8, Subtitle 7)
 - i. Intent is to foster the development, use, and enjoyment of all the waters of Maryland.
 - ii. *8-721 et seq. ... addresses removal and disposal of abandoned vessels; debris that poses a hazard to navigation or limits access to a public boating access facility or a shipping channel is eligible for removal; local governments can apply to DNR for money from waterway improvement fund
- q. Chesapeake and Atlantic Coast Bays Critical Area Protection Program (NR Title 8, Subtitle 18)
 - i. To establish a resource protection program for the Chesapeake and the Atlantic coastal bays and their tributaries by fostering more sensitive development activity for certain shoreline areas so as to minimize damage to water quality and natural habitats; and to implement the resource protection program on a cooperative basis between the state and local governments, with local governments establishing and implementing their programs in a consistent and uniform manner subject to state and local leadership, criteria, and oversight
- r. Wildlife (NR Title 10)
 - i. DNR responsible for conservation and management of wildlife and wildlife resources of the state; license required to be waterfowl outfitter or waterfowl hunting guide; except for unprotected birds and game birds hunted during open season, a person may not hunt any wild bird; may not take or destroy nest or eggs of any wild bird, or possess nest or eggs; cannot hunt game birds except as provided by federal/state laws; migratory bird refuge; hunting game

- birds/animals during open season; game bird hunting restrictions; other hunting restrictions
- ii. Nongame and Endangered Species Conservation Act (NR Title 10, Subtitle 2a);
 - A. In addition to Endangered Species Act (ESA) species, DNR shall determine whether any species of wildlife or plant is endangered or threatened; incidental take permit for Puritan Tiger Beetle, Delmarva fox squirrel; DNR shall establish programs, including acquisition of land or aquatic habitat or interests in the land or aquatic habitats, necessary for the conservation of nongame, threatened, or endangered species of wildlife or plants
- iii. Wild Waterfowl (NR Title 10, Subtitle 6)
 - A. Offshore blind site; person may not shoot a wild waterfowl resting on land or water (10-602); shall not purposely or unnecessarily disturb wild waterfowl; may not hunt wild waterfowl while using floating device towed by powerboat or sailboat (10-603); person may not hunt wild waterfowl while standing in the water except where specified; may hunt wild waterfowl while standing in the water at a licensed offshore stationary blind or blind site; licenses for offshore stationary blinds
- iv. State Wildlife Management Areas and Hunting Grounds (NR Title 10, Subtitle 8)
 - A. DNR may acquire any area of land or water in the state suitable to propagate or manage wildlife for hunting purposes; an acquired area of land or water may be used to create and maintain state wildlife refuges for wildlife management and hunting grounds
- v. Wild Waterfowl Policy (NR Title 10, Subtitle 10)
 - A. License to feed waterfowl upon land owned by person/group or in waters within 300 yards of shoreline owned by person/group

III. STATE FINANCE & PROCUREMENT ARTICLE

- a. Maryland Submerged Archaeological Historic Property Act (SFP 5A-340, 341)
 - i. submerged archaeological historic property taken from underwater land over which state has sovereign control is the property of the state; BPW can approve permit to convey title to submerged archaeological historic property it owns
- b. Sale & Transfer of Property (SFP 10-305)
 - i. State real or personal property (which includes the inland waters of the state and the land under those waters) may be sold, leased, transferred, exchanged, granted, or otherwise disposed of
- c. Conveyance of Title to Lands Owned by State Due to Their Relationship to State Waters (SFP 10-401)
 - i. BPW may not convey title to land covered by subtitle (e.g., submerged lands) to any person other than the riparian owner of the land abutting the land conveyed; can't convey until after advice with other state agencies;

APPENDIX C: Response to Comments on Draft EIS/DMP/Proposed Rule

MALLOWS BAY–POTOMAC RIVER RESPONSE TO PUBLIC COMMENTS

When designating a national marine sanctuary, Section 304 of the NMSA (16 U.S.C. 1434) requires the preparation of an environmental impact statement (EIS), as provided by the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) and that the EIS be made available to the public. In preparing the final EIS, the CEQ regulations further require that agencies respond to all “substantive” comments on a draft EIS (40 C.F.R. 1503.4).

MPNMS DMP, DEIS, and proposed sanctuary regulations were released for public review on January 9, 2017 (82 FR 2256). The public comment period ended on March 31, 2017. During this period, NOAA received over 1,450 comments, including written comments, oral comments, and group letters. Of those, 1120 comments were received through the eRulemaking Portal www.regulations.gov. NOAA also hosted two public hearings on March 7, 2017 in La Plata, Maryland, and March 9, 2017 in Arnold, Maryland. Over 170 people attended the meetings with 73 people providing oral public comment. Additionally, through the National Marine Sanctuary Foundation (NMSF), NOAA received two letters signed on behalf of multiple organizations; one was signed by 133 individuals in support of designation of NOAA’s preferred alternative and the second was signed by 128 organizations in support of designation for MPNMS and a separate action relating to the proposed designation of Wisconsin Shipwreck Coast National Marine Sanctuary.

The majority of comments expressed support for the proposed sanctuary, several expressed opposition, and a few did not take a position. Of those people who spoke at the public meetings, more than half expressed support, several were opposed, and a few expressed conditional support. In addition, of the nearly 1000 comments that specified a boundary alternative, relatively few favored Alternative A (i.e., no action/no sanctuary), while most favored Alternative B (approximately 18 square miles of waters and submerged lands, which closely matches the MalloWS Bay-Widewater Historical and Archeological District that is listed on the National Register of Historic Places and closely matches the boundaries submitted by the Maryland governor in the sanctuary nomination package), Alternative C (approximately 52 square miles bay area of waters and submerged lands of the tidal Potomac River, which includes all of the known WWI-era historic vessel remains) or Alternative D (approximately 100 square miles of waters and submerged lands of the tidal Potomac River, which may contain other maritime cultural heritage assets and potentially expands recreational use opportunities). The majority of comments supported Alternative D because it offers the greatest number public access points and extends protection to additional potentially known maritime cultural assets. Supporters also favored Alternative D because they believed it offered increased protection of natural resources, although natural resource management is not proposed or being implemented for this sanctuary. Several comments supported NOAA’s draft preferred alternative (Alternative C) as did those who signed a letter of support through the NMSF. Of the comments that did not specify a boundary alternative, the majority supported a sanctuary designation. Through the NMSF, many organizations expressed support for MPNMS without reference to a specific alternative.

As a cooperating agency, the DoN provided NOAA with comments on behalf of four military installations adjacent to the proposed sanctuary boundary alternatives. DoN also submitted a public comment stating support for the proposed sanctuary designation and expressing a desire to work cooperatively with NOAA to ensure that the designation does not adversely impact area military operations.

Additional input on the proposal were provided to NOAA through consultation with federal and state agencies, as well as discussions with three state-recognized tribes: Piscataway Conoy Confederacy and Sub-Tribes (Maryland), Piscataway Indian Nation (Maryland), and the Patowomeck Indian Tribe of Virginia (Virginia).

For the purposes of managing responses to public comments, NOAA grouped similar comments by theme. These themes align with the content of the proposed rule that identified the purposes and needs for a national marine sanctuary, and the draft management plan that identified the proposed non-regulatory programs and sanctuary operations. The themes are summarized below, followed by NOAA's response.

COMMENTS on the PURPOSES and NEED for the SANCTUARY

Purpose and need 1: Resource protection for maritime and cultural heritage assets

1. Comment: The majority of comments NOAA received expressed support for the sanctuary designation because it will have a positive impact on cultural resource protection of known and potential shipwreck sites through increased public awareness, education, interpretation, and related programs.

Response: NOAA agrees with these comments and, in partnership with the state of Maryland and Charles County, Maryland, is moving forward with the sanctuary designation process, which cites protection and interpretation of nationally-significant maritime cultural heritage resources as one of two purposes and needs for the sanctuary.

2. Comment: NOAA received many comments highlighting that the WWI-era ship remains and related maritime assets are an important component of United States history and maritime cultural heritage.

Response: NOAA agrees with these comments. These vessels were built at more than 40 shipyards throughout the coastal United States and helped to transform the United States shipbuilding capacity. In addition, the demand for workers, materials, and industry services provided significant economic and social benefits to local economies and communities.

3. Comment: NOAA received some comments that as the nation commemorates the centennial of United States' entry into WWI, sanctuary designation would be a fitting tribute to those citizens who served our country during that period.

Response: NOAA agrees that the sanctuary could help to interpret the stories of sacrifice and commitment of those who served during WWI, including our war veterans, the expansion of the U.S. Merchant Marines, and communities associated with more than 40 shipyards in the construction of the Ghost Fleet vessels. NOAA will continue to participate alongside other local,

state and federal programs and non-profit organizations throughout the WWI Centennial Commemoration period and beyond.

4. Comment: NOAA received several comments expressing opposition to the proposed designation because commenters expressed mistrust with the federal government, argued the proposed sanctuary is not needed, and felt designation would not be a good use of federal funds.

Response: Through the NMSA, NOAA as a federal agency carries out its mission through transparent public processes and community-based programs that involve extensive and continuous public engagement and input. This holds true for nominating and potentially designating new sanctuaries. The concept for this proposed sanctuary originated with a nomination from the governor of Maryland to NOAA. That nomination also included the request for joint management with the state of Maryland and Charles County, Maryland. The designation process has included public scoping and public comment periods, as well as numerous meetings with community organizations. After designation, NOAA and the joint managers of the sanctuary will continue their partnership and transparency with the community through sanctuary advisory councils, working groups, volunteer opportunities, and a diversity of partnerships.

The justification for the sanctuary is addressed in the final environmental impact statement. Specifically, Section 3.2 “Description of alternatives” describes Alternative B in terms of the Mallows Bay-Widewater Historical Archeological District, which codifies the national significance of the Ghost Fleet and related maritime assets and provides opportunity for federal protection. Section 2.2 “Purpose of and need for action” describes how the NMSA would complement and supplement existing federal and state authorities to enhance resource protection for maritime assets and facilitate public access and recreation through regulatory and non-regulatory actions.

Section 2.4 of the FEIS defines the role of the NMSA to complement and supplement existing authorities. For example, the NHPA only applies to federal undertakings and does not address actions taken by the public. As such, the NMSA would supplement existing state authorities by closing gaps related to the collection of historic artifacts, by strengthening the requirement for the public to report discovery of historic artifacts, by increasing enforcement capacity, and by increasing the penalty for violation of these prohibitions. Additionally, NOAA’s non-regulatory programs (e.g., education, public outreach, citizen science) make significant contributions to the ongoing management and long-term conservation of historic resources and are important tools to help raise public awareness of and deter impacts to the historic and maritime cultural heritage resources of the area.

5. Comment: NOAA received a few comments that sanctuary designation is unnecessary because the historic resources are managed by the state of Maryland already and the area was recently added to the National Register of Historic Places (NRHP).

Response: NOAA disagrees that sanctuary designation is unnecessary. While the state of Maryland is the trustee and manager of the historic resources, there remain gaps in the state’s authority to provide full protection, as defined in Section 2.4 of the FEIS. The listing of the Ghost Fleet on the National Register of Historic Places (NRHP) in 2015 deemed it to be nationally

significant due to its historical, cultural, or archaeological qualities and, therefore, eligible for additional federal protection.

Section 2.4 of the FEIS defines the role of the NMSA to complement and supplement existing authorities. For example, the NHPA only applies to federal undertakings and does not address actions taken by the public. As such, the NMSA would supplement existing state authorities by closing gaps related to the collection of historic artifacts, by strengthening the requirement for the public to report discovery of historic artifacts, by increasing enforcement capacity, and by increasing the penalty for violation of these prohibitions. Additionally, NOAA's non-regulatory programs (e.g., education, public outreach, citizen science) make significant contributions to the ongoing and long-term management of historic resources and are important tools to help raise public awareness and deter impacts to the historic and maritime cultural heritage resources of the area.

6. Comment: NOAA received some comments expressing support for the proposed sanctuary designation because the sanctuary would help protect and interpret important Civil War heritage resources.

Response: NOAA agrees with these comments. In addition to protecting and interpreting WWI-era assets, the waters of the Potomac River potentially include historic assets from other eras including the Civil War, which would also be protected. Additionally, the surrounding maritime landscape is associated with Civil War-era history, including the Underground Railroad. NOAA expects that sanctuary research, education, and outreach efforts have the potential to expand the understanding, protection, and interpretation of these histories and resources.

7. Comment: NOAA received several comments that the sanctuary would serve as an important and permanent memorial to those citizens who have served and sacrificed their lives to defend our country, from the Revolutionary War through modern times.

Response: NOAA agrees that an opportunity may potentially exist. As these assets cannot reside in museums or other land-based venues, the resting place of the WWI-era Ghost Fleet and maritime assets from other war eras within sanctuary waters offer a unique opportunity to commemorate service and sacrifice to the nation. For example, NOAA and its partners have begun a dialog with the Maryland Veterans Museum at Patriot Park about the potential for the sanctuary's water-based perspective to complement the experience of visitors to the museum. NOAA intends to continue to work with a variety of organizations to promote and interpret histories and stories of personal commitment associated with the sanctuary.

8. Comment: NOAA received several comments that the shipwrecks are not nationally significant and that NOAA did not provide adequate justification for designation.

Response: NOAA disagrees with these comments. The WWI-era Ghost Fleet is a national asset that has been adequately documented and validated by nationally-recognized authorities. Specifically, in 2015, the Department of Interior placed a section (called a "district") of the Potomac River containing the Ghost Fleet on the National Register of Historic Places. This district listing recognizes the area as "nationally-significant" and is consistent with the criteria

described in the Federal Register notice for the Sanctuary Nomination Process to qualify the resources for consideration as a national marine sanctuary.

9. Comment: NOAA received some comments that the sanctuary should recognize and interpret the historical fisheries, of the region as well as the generations of local watermen.

Response: NOAA agrees with these comments. While the WWI-era vessels and assets are the principal maritime features of the proposed sanctuary, NOAA recognizes that there are other significant cultural resources within and/or associated with the sanctuary (see Section 3.2 of FEIS), including the history of fishing and the heritage of local watermen. The sanctuary will work with partners to conduct research and to provide education and outreach materials to help document and interpret these histories (see FMP Action Plan 5, Research, Science, and Technology).

10. Comment: NOAA received a few comments that the sanctuary should include the history and heritage of the four DoD facilities that are within or nearby the proposed sanctuary alternatives.

Response: NOAA agrees with these comments. The DoD mission, facilities, and assets are critical to national security. DoD heritage is an integral part of the history and heritage of this region. The sanctuary management plan includes strategies to partner with these facilities to develop education, outreach, and interpretative materials.

11. Comment: NOAA received several comments that the sanctuary should address Native American heritage.

Response: NOAA agrees with these comments. In 2014, the community that developed the original sanctuary nomination recognized tribal culture as integral to the history and heritage of the Potomac River. The Piscataway Conoy Confederacy and Sub-Tribes (Maryland) served as a member of the nominating group and helped to guide the information content. Two state-recognized tribes in Maryland (Piscataway Conoy Confederacy and Sub-Tribes and Piscataway Indian Nation) and one in Virginia (Patawomeck Indian Tribe of Virginia) claim this area as their aboriginal territory. NOAA anticipates working alongside partners to expand understanding and interpretation of the heritage of all local Native American cultures.

12. Comment: NOAA received a few comments that the sanctuary will provide an important opportunity to document African-American culture and heritage in the area, including possible Underground Railroad sites as well as the contributions of African-Americans to local shipbuilding and fisheries industries.

Response: NOAA agrees with these comments. Limited information exists relative to the direct role of African-Americans in shipbuilding and related services during WWI and their role in subsequent shipbreaking operations. Thus, the management plan identifies significant opportunity to research, document, and interpret this history.

13. Comment: NOAA received a few comments questioning why the sanctuary boundary extends beyond the boundary of Mallows Bay Park since most of the ships are clustered in that area.

Response: While many of the known WWI-era vessel remains reside in an area adjacent to Mallows Bay Park, other known vessel remains are located near Widewater, Virginia as well as other locations in the middle Potomac River. In addition, research indicates that other maritime and cultural assets from several time periods have yet to be discovered. As such, the final rule proposes a sanctuary boundary (Alternative B) that encompasses these assets and is purposefully aligned with an area defined on the National Register of Historic Places. This entire area contains important cultural and maritime resources, including the remains of the WWI-era Ghost Fleet, vessels and assets associated with the three shipbreaking periods, vessels from other historical periods, and other cultural features. In response to public comments and consultations, NOAA, alongside partners from the state of Maryland and Charles County, Maryland chose to adopt Alternative B, a management area that would include these potential historic sites and facilitate resource management as cultural resources are newly identified. This would ensure protection of these resources as they are discovered.

14. Comment: NOAA received a few comments that the sanctuary as proposed provides a good balance through its focus on maritime cultural heritage resources while continuing to leave the management of natural resources under existing state and local authorities.

Response: NOAA agrees with this comment. For the purposes of this designation, sanctuary resource protection and management is exclusive to the maritime and cultural assets of the area. NOAA has developed a Memorandum of Agreement (MOA) with the state of Maryland and Charles County, Maryland that, in part, reiterates that the authority and responsibility for natural resource management within the sanctuary remains with the state of Maryland and the Potomac River Fisheries Commission.

15. Comment: NOAA received many comments regarding the probable existence of maritime artifacts throughout alternatives C and D as rationale for expanding the sanctuary boundaries.

Response: NOAA agrees that significant maritime assets exist outside of sanctuary boundaries. For example, the remains of two WWI-era vessels, the remains of the steamship *Wawaset*, and the remains of a Civil War-era vessel are known to reside in Alternative C. As such, NOAA crafted Alternative C to include all of the known WWI-era vessels and other significant maritime assets in addition to those which research indicates have the potential to exist. Although NOAA is not aware of any additional documented vessels or maritime assets in Alternative D, NOAA agrees there is credible research to suggest their presence within the boundary. NOAA believes there are substantial scientific and educational opportunities to explore and document additional assets and artifacts throughout the sanctuary and adjacent waters.

16. Comment: NOAA received one comment regarding NOAA's inability to enact management strategies that protect the maritime resources from "sea level rise, marine debris, erosion, and other impacts from the sea."

Response: NOAA agrees that management strategies to protect maritime resources from erosion, weathering, and other natural processes will be difficult to implement within the scope of sanctuary management actions. These processes will continue to degrade the condition of the maritime cultural heritage resources in the long term. The sanctuary management plan proposes

science and research activities that monitor and document changes to the maritime resources over time and, as practical, to better understand the potential impacts associated with these natural events.

NOAA also agrees that marine debris has potential to impact sanctuary resources. The management plan includes a number of non-regulatory strategies that raise public awareness and promote responsible use of the sanctuary resources to mitigate human impacts, such as marine debris. Additionally, since 2014, NOAA and its partners have participated in an annual trash clean up at Mallows Bay Park hosted by the Alice Ferguson Foundation. Those events have attracted hundreds of community volunteers who have collected several tons of trash and marine debris in and around the historic and natural resources. Following designation, NOAA intends to expand partnerships with other programs in response to marine debris.

Purpose and need 2: Public access, recreation, and heritage tourism

17. Comment: NOAA received several comments that the Mallows Bay sanctuary nomination and designation processes have already increased public awareness of and visitation to the area, which has resulted in overcrowding at Mallows Bay Park and resulting conflicts among users and threats to sanctuary resources.

Response: NOAA agrees that the designation process has increased awareness of Mallows Bay Park and adjacent maritime cultural heritage resources, but data are not available to interpret changes to visitation. As outlined in the proposed management plan, NOAA will work in cooperation with partners to understand visitor use, understand carrying capacity of the site, and, as necessary, take action to mitigate overcrowding (see FMP Resource Protection Action Plan, Strategy RP-3) and reduce potential threats (see FMP Resource Protection Action Plan, Strategy RP-1 and RP-3) to sanctuary resources. For example, proposed activities related to visitor information, signs, marketing, public outreach, and water trails are expected to help disperse or separate visitors.

18. Comment: NOAA received many comments that NOAA should work with partners to help facilitate additional public access, enhance capacity at existing access sites, and enhance visitor services.

Response: NOAA agrees with this comment. Facilitating public access and recreational opportunity is one of two purposes and needs identified for the sanctuary. NOAA will continue to work with partners in Maryland and Virginia to consider public use and, as appropriate, to expand access and services that enhance visitor experiences.

19. Comment: NOAA received several comments that sanctuary designation is an opportunity to network recreational opportunities among multiple public parks and access points in Maryland and Virginia, and one comment provided specific recommendations for the types of amenities at these locations.

Response: NOAA agrees with this comment and recognizes the social and economic benefits associated with enhancing partnerships among these sites. Mallows Bay Park is one of several local, state, and federal parks along this stretch of the Potomac River. These parks are adjacent to and provide public access to three national water trails in this portion of the river. The sanctuary

management plan identifies activities to support recreational access, water trails, and interpretation, as well as education and public outreach on both sides of the Potomac River.

20. Comment: NOAA received a few comments that NOAA should protect the areas of importance but keep the river open and available to all.

Response: NOAA agrees with this comment. The purpose of the designation is to protect the nationally-significant maritime cultural heritage resources. In carrying out this purpose, NOAA has no plans to limit access to the Potomac River. Many of the action plans in the management plan encourage use of the river, including Resource Protection Action Plan Strategy 3 (enhancing user access, developing trail maps, certification programs for local outfitters). Additionally, the Recreation and Tourism Action Plan (FMP Section 3) focuses on ways to increase sustainable use of the sanctuary and adjacent river, preparing and distributing outreach and education materials to visitors, and working with state and local governments to develop and/or enhance tourism infrastructure.

21. Comment: NOAA received one comment expressing concern about the safety of bicyclists on local roads and objections to using local taxes to fund the activities of visitors.

Response: The proposed designation does not grant NOAA authority to manage or regulate local roads, vehicle traffic, or cyclist use of the roadways. Local land use planning, taxes, and related infrastructure remain under the authority of county and state agencies. If or when changes to the use of local use of roadways is related to the sanctuary, any actions or amenities will be addressed by the county or state, as appropriate, as joint managers of the sanctuary.

22. Comment: NOAA received one comment expressing concern that NOAA would charge a fee for commercial and recreational uses of the Potomac River.

Response: Facilitating public access and recreational use of the Potomac River is one of the two purposes for establishing the sanctuary. The states and county may already charge fees for use of parks or recreational activities (i.e., fishing licenses), but those fees are not associated with the sanctuary. NOAA does not generally charge fees for public access to national marine sanctuaries. NOAA may issue special use permits (SUPs) under Section 310 of the NMSA to establish conditions of access and use of sanctuary resources, or to promote public use and understanding of a sanctuary resources. Special use permits are generally issued for a narrow category of concessionary or commercial activities. Those activities are set forth in the Federal Register (78 FR 25957; May 3, 2013 and 82 FR 42298; September 7, 2017), and include:

1. The placement and recovery of objects associated with public or private events on non-living substrate of the submerged lands of any national marine sanctuary.
2. The placement and recovery of objects related to commercial filming.
3. The continued presence of commercial submarine cables on or within the submerged lands of any national marine sanctuary.
4. The disposal of cremated human remains within or into any national marine sanctuary.
5. Recreational diving near the USS *Monitor*.

6. Fireworks displays.
7. The operation of aircraft below the minimum altitude in restricted zones of national marine sanctuaries.
8. The continued presence of a pipeline transporting seawater to or from a desalination facility.

The NMSA allows NOAA to assess and collect fees for activities conducted under an SUP. The fees are set to recover the administrative costs of issuing the permit, the cost of implementing the permit, monitoring costs associated with the conduct of the activity, and the fair market value of the use of sanctuary resources. NOAA will not apply the SUP to activities in place at the time of MPNMS designation.

23. Comment: NOAA received one comment expressing concern that fossil hunting would be restricted.

Response: NOAA does not propose to restrict casual collection of fossils along the shoreline. NOAA will continue to work with partners to develop public education and outreach materials that interpret the resources of the area, including fossils, to help encourage respect and stewardship of any artifacts which may have unique cultural significance. Some commercial methods of collection may require permitting under the NMSA and through other authorities, such as the U.S. Army Corps of Engineers, if the activity is expected to cause significant bottom disturbance or damage to the historic resources.

24. Comment: NOAA received one comment that there should be an emphasis on encouraging recreational activity in the area, specifically related to recreational boating, and that the sanctuary must provide recreational access for boaters.

Response: Facilitating public access and recreational use of the Potomac River is one of the two purposes for establishing the sanctuary. NOAA encourages a variety of responsible recreational uses within the sanctuary and will continue to work with partners to explore opportunities to enhance services important to all users, including recreational boaters.

25. Comment: NOAA received one comment asking NOAA to confirm that alternatives C and D would not impact construction/maintenance of marinas and piers along the Prince William County, Virginia shoreline or the operation of passenger ferry service and transport of commercial goods to ports on the Potomac River.

Response: Because NOAA's preferred alternative does not include the Prince William County, Virginia shoreline, the facilities referenced in the comment are not included in the sanctuary boundaries and thus will not be impacted by sanctuary regulations. In the case of any future construction projects that may have the potential to indirectly impact the sanctuary, NOAA would consult with other federal, state, and local agencies in partnership to evaluate potential impacts. The sanctuary regulations do not prohibit or otherwise limit vessel traffic on the Potomac River, and thus NOAA does not expect that this action would impact the operation of passenger ferry service or other commercial uses of the river. NOAA is committed to ensuring that the creation of the sanctuary supports businesses and organizations that use the river and surrounding marinas,

ports, and other waterfront facilities, and recognizes that commercial and recreational uses of the Potomac River are important activities that support the nation's economy.

Impact on sovereignty and rights

26. Comment: NOAA received several comments concerned that sanctuary designation will result in the loss of state control of the Potomac River, and constitutes a takeover of management, regulation, and permitting of the area by the federal government.

Response: NOAA disagrees with this comment. The NMSA recognizes the sovereignty of the state of Maryland. As stated in the NMSA (16 U.S.C. 1431(b)(2)), one of the purposes and policies of sanctuary designation is “to provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities.” Similarly, Section 1434 provides the governor with the authority to certify that the designation or terms thereof is unacceptable, and preclude the designation or terms thereof from taking effect in state waters.

NOAA, the state of Maryland, and Charles County, Maryland will enter into a Memorandum of Agreement that specifies the terms of joint management of the sanctuary and reiterate that the state does not relinquish sovereignty or management control over any state-owned bottom lands and resources within the sanctuary boundaries. This document clearly delineates how the sanctuary designation will supplement and complement, not replace, existing authorities. The draft MOA can be found in Appendix D of this FEIS.

27. Comment: NOAA received a few comments that the Potomac River Fisheries Commission (PRFC) has sole authority to manage fisheries within the mainstem tidal reach of the Potomac River and that sanctuary designation and any associated regulations will infringe on the PRFC authority.

Response: NOAA disagrees that the sanctuary will infringe on PRFC authority. NOAA narrowly defines sanctuary resources as “historical resources,” which includes “any resource possessing historical, cultural, archaeological, or paleontological significance, including sites, contextual information, structures, districts, and objects significantly associated with or representative of earlier people, cultures, maritime cultural heritage, and human activities and events.” The definition does not include living resources, such as fish, marine mammals, or seabirds. Instead, the proposed regulations seek only to protect the maritime and cultural resources of Mallow's Bay-Potomac River.

In the Article IV, Section 2 of the Terms of Designation (found in Appendix B of 922, Subpart S, NOAA clarifies that “NOAA will not exercise its authority under the NMSA to regulate fishing in the Sanctuary.” NOAA has also added an exemption for traditional fishing in 922.203(a), and “Traditional fishing” is defined in 922.201 as “those commercial, recreational, and subsistence fishing activities that were customarily conducted within the Sanctuary prior to its designation or expansion, as identified in the relevant Final Environmental Impact Statement and Management Plan for this Sanctuary”.

Furthermore, in Section VII of the Draft MOA (found in Appendix D of this document), the parties have agreed to consider the potential impacts of sanctuary designation to commercial and recreational fishing activities during management plan review conducted under 304(e) of the NMSA. Specifically, within sixty days of the five- and ten-year anniversary date of the designation, the Governor of Maryland may submit findings demonstrating the manner and extent to which the designation of the sanctuary is having measurable negative impacts on the State's commercial and/or recreational fishing industry, and provide NOAA with an opportunity to address the concerns.

Additionally and pursuant to the NMSA, any future changes to the activities subject to regulation would require public notice, a rulemaking process, and concurrence from the state of Maryland. As such, the authority and responsibility for natural resource management, including commercial and recreational fishing, remain with PRFC and Maryland Department of Natural Resources (DNR). In March 2017, Attorney Generals from both Maryland and Virginia rendered opinions to PRFC and Maryland DNR, which confirmed that the authorities of PRFC and DNR for natural resource management would not be impacted by sanctuary designation (see FEIS Appendix F).

28. Comment: NOAA received a few comments concerned that sanctuary designation will infringe upon the rights of local tribes.

Response: NOAA disagrees with this comment. Sanctuary designation and management will not infringe on tribal rights. NOAA anticipates working alongside partners to expand understanding and interpretation of the heritage of all local Native American cultures. There are two state-recognized tribes in Maryland (Piscataway Conoy Confederacy and Sub-Tribes and Piscataway Indian Nation) and one in Virginia (Patawomeck Indian Tribe of Virginia) that claim this area as their aboriginal territory. Consistent with Section 106 of the National Historic Preservation Act, NOAA invited the three state-recognized tribes to consult parties in the designation process and continues engagement with them.

In 2014, the community that developed the original sanctuary nomination recognized tribal culture as integral to the history and heritage of the Potomac River. The Piscataway Conoy Confederacy and Sub-Tribes (Maryland) served as a member of the nominating group and helped to guide the information content. Since then, members of the Piscataway Conoy Confederacy and Sub-Tribes participated in local community events related to Mallows Bay and, on March 7 and March 9, 2017, offered verbal comments related to the proposed sanctuary. One member questioned the historic value of the ships and expressed concern about increased taxes, while the tribe's chairman expressed support for the sanctuary and partnerships that share a common goal to protect the resources and ancestry of the Potomac River. On March 22, 2017, also as part of the public comment period, the Patawomeck Indian Tribe of Virginia submitted a written comment expressing concern that federal involvement that could impact tribal sovereignty and livelihoods.

On March 2, 2017, NOAA sent letters to two Maryland tribes - the Piscataway Conoy Confederacy and Sub-Tribes and Piscataway Indian Nation. The Piscataway Conoy Confederacy and Sub-Tribes provided oral comments during the public meetings on March 7 and March 9 as described above. On November 3, 2017, NOAA sent follow up emails to these same tribes

inviting them to discuss the proposed sanctuary and any concerns related to the tribes. NOAA did not receive a reply from either.

In March 22, 2017, the secretary of the Patawomeck Tribe of Virginia submitted written comments on the proposed designation. On October 16, 2017 and November 20, 2017, NOAA sent invitations for consultation to the Patawomeck Indian Tribe of Virginia. NOAA did not receive a response. On November 29, 2017, NOAA phoned Chief John Lightner. During that conversation, Chief Lightner offered no present-day concerns relative to the proposed sanctuary, despite the initial concerns expressed during the public comment period in March 2017. Moreover, Chief Lightner expressed interest in learning more about opportunities to engage directly with the sanctuary on topics related to interpreting the heritage of the Patawomeck Tribe of Virginia. ONMS contacted Chief Lightner again via email and phone on March 9, via email on April 17, 2018, and via phone on April 23, 2018, soliciting additional written comments. However, NOAA received no additional written response to these communications. ONMS looks forward to working with the Patawomeck Tribe of Virginia.

29. Comment: NOAA received one comment that the sanctuary would cause property owners along the shoreline to lose their properties.

Response: As described in Section 3.2 of the FEIS, sanctuary resources are specific to the maritime and cultural resources within Maryland waters. The sanctuary boundary does not include land area, nor does it include private property. Following sanctuary designation, authority for local land use planning remains with local jurisdictions. NOAA has been and will continue to work closely with state, county, and local authorities to understand land-based actions with the potential to negatively impact sanctuary resources.

COMMENTS related to INDIRECT BENEFITS

30. Comment: NOAA received many comments that sanctuary designation will be important to protect existing populations and habitats for striped bass and sturgeon, and will improve water quality for recreational and commercial fishing.

Response: The authority and responsibility for natural resource management, including commercial and recreational fishing, remains with the state of Maryland and the Potomac River Fisheries Commission. The management of the sanctuary is focused on protections of maritime heritage resources. As such, to the extent that fish or other species rely on the maritime heritage resources as habitat, the sanctuary may have beneficial effects. The sanctuary management plan identifies opportunities for science and monitoring of maritime heritage resources, including their relationship with the local ecosystem. NOAA's Office of National Marine Sanctuaries consulted with NOAA's National Marine Fisheries Service pursuant to ESA Section 7 for sturgeon and pursuant to the EFH provisions of the MSA for summer flounder and bluefish. In both consultations, NOAA found that sanctuary designation would not have an adverse effect.

31. Comment: NOAA received many comments that the sub-estuaries represented by Alternative D are part of a connected ecosystem. As such, a sanctuary that includes this area could have additional benefit for species, habitat, and water quality.

Response: NOAA's consideration of Alternative D was related directly to the protection and management of maritime cultural heritage resources and enhancing recreational access and interpretation related to these resources. As such, NOAA did not consider this area from the perspective of ecosystem connectivity. Following sanctuary designation, natural resource management will remain under the jurisdiction of other existing state and federal authorities.

32. Comment: NOAA received many comments that the proposed national marine sanctuary is an important component of the Chesapeake Bay and related programs.

Response: NOAA agrees with this comment. The Chesapeake Bay Program is a regional partnership that leads and directs Chesapeake Bay restoration and protection through partnerships with federal and state agencies, local governments, nonprofit organizations, and academic institutions. NOAA actively engages in partnerships throughout the Chesapeake Bay and in the Potomac River. The sanctuary presents additional opportunities to expand local and regional partnerships for public engagement, education, science, and outdoor experiences.

33. Comment: NOAA received several comments that the proposed national marine sanctuary is an important component of the Potomac River and the Chesapeake Bay.

Response: NOAA agrees with this comment. The Potomac River, which is part of the Chesapeake Bay watershed, is an important natural resource in the region. The cultural resources within the sanctuary are an important watershed component that reflects the human history of the region. Through the sanctuary management plan, NOAA intends to further explore and interpret the cultural and historic aspects of the greater Potomac River watershed and its relationship to the greater Chesapeake region.

34. Comment: NOAA received one comment stating that "marine sanctuaries have been demonstrated to have huge net-positive benefits for economic growth. I think designation of Malloes Bay as a marine sanctuary would be a critical advancement for the region. I think this is so important to the long-term future of this region, that if I were asked, I would support market-based compensation for individuals that are financially harmed by the designation. This would be an important step in the restoration and strengthening of our bay."

Response: NOAA agrees that national marine sanctuaries have potential to provide net positive economic benefit to communities, as described in the FEIS, sections 5.3.2 and 5.3.4. Increased awareness of the area and its maritime resources has potential to increase heritage and recreational tourism and drive demand for enhancing visitor services. NOAA's evaluation does not include consideration of market-based compensation.

Concern for future expansion of NOAA authorities

35. Comment: NOAA received a few comments expressing concern that in five years when NOAA is required to revise the management plan, NOAA will change the rules, expand the boundaries, and put in stricter regulations.

Response: Section 304(e) of the NMSA requires NOAA to evaluate a national marine sanctuary's management plan every five years. However, NOAA is not required to revise the

management plan and/or the regulations during the management plan review process. Should any changes to the sanctuary's management approach be required, they would be made only after the agency has engaged in a robust public process.

Additionally, any proposed changes to a national marine sanctuary boundary and its regulations are further subject to Section 304(a)(4) of the NMSA, which identifies the sanctuary's "terms of designation" (i.e., its geographic boundaries, the characteristics that make it significant, and the broad types of activities that could be subject to regulation). These terms of designation may be modified only by the same procedures used for the original designation, meaning they must include public notice requirements. This provision also allows the governor of any respective state within the sanctuary's boundaries to review any changes to the terms of designation, and to make a determination as to whether they are acceptable. Any term of designation the governor determines as unacceptable shall not take effect in the state waters or submerged lands.

In the case when a regulatory change does not require changes to a sanctuary's terms of designation, NOAA would have to follow the procedures of the Administrative Procedure Act (5 U.S.C. 553), which requires adequate public notice and opportunity for public comment on any proposed new regulations. The state of Maryland and Charles County, as the sanctuary joint-managers, would be involved in all considerations regarding any proposed changes to the sanctuary's terms of designation and regulations.

36. Comment: NOAA received a few comments expressing concern that, because NOAA has the authority to regulate fishing, once the sanctuary is designated, NOAA is likely to begin regulating fishing within this sanctuary.

Response: NOAA's purpose in designating this national marine sanctuary is to protect maritime cultural heritage assets located in the Potomac River. While NOAA's Office of National Marine Sanctuaries has authority to regulate fishing activities pursuant to the NMSA, NOAA is not exercising that authority for this sanctuary. The sanctuary regulations for MPNMS only apply to historical resources. Additionally, the terms of designation for MPNMS do not identify fishing as one of the activities subject to regulations. Moreover, since the waters of the sanctuary are located entirely within the jurisdiction of the state of Maryland, the PRFC (which includes commissioners from Maryland and Virginia) and the state of Maryland will retain the sole authority to publish and enforce rules, regulations, and laws dealing with all fishing matters in the area. In the Article IV, Section 2 of the Terms of Designation (found in Appendix B of 922, Subpart S, NOAA clarifies that "NOAA will not exercise its authority under the NMSA to regulate fishing in the Sanctuary."

37. Comment: NOAA received a few comments that designation could impact hunting and the permitting process. In addition, there is no mention of hunting as a recreation activity; current hunting regulations, licenses, and permitting should remain as is.

Response: NOAA's purpose in designating this national marine sanctuary is to protect maritime cultural heritage assets located in the Potomac River. The FEIS has been updated to include data on hunting activities in the area. NOAA's analysis of the resources has not found any threats from or impacts to these resources from hunting. Thus, the terms of designation does not identify

hunting as one of the activities subject to regulation, so NOAA cannot impose restrictions on hunting unless new terms of designation are issued. All licensing and permitting for hunting will remain under the jurisdiction of the Maryland DNR.

COMMENTS related to the DRAFT MANAGEMENT PLAN

38. Comment: NOAA received many comments that the sanctuary would enhance student education (K-12 and higher education), particularly through increased opportunity for field-based programs.

Response: NOAA agrees with this comment. The sanctuary offers students a unique experience in multi-disciplinary education. This area has recently become a magnet for educational field experiences at all levels, including several graduate studies from outside the local area. Additionally, through funding from NOAA, stewardship activities and outdoor educational opportunities have been expanded at two schools in Charles County. The sanctuary will enable additional educational opportunities and partnerships, including those aimed at understanding and appreciating both the ecological characteristics and the historic archaeological resources within the area. The site's proximity to Washington, D.C. and several colleges and universities adds to the opportunities for learning and research, in some cases in conjunction with state and federal agencies, and private educational institutions.

39. Comment: NOAA received comments that the sanctuary will be an important location for research, science, and monitoring of historical resources, as well as their interaction with the natural environment.

Response: NOAA agrees with this comment. The sanctuary is an excellent site to act as a living laboratory to understand changes to natural conditions, shipwrecks, and the interaction between them. Its designation creates opportunities for scientific, archaeological, and environmental research through partnerships with non-profit maritime organizations and universities and colleges with maritime archaeology programs. These partners will have increased opportunities to work with NOAA and the state to undertake research and to encourage students to seek thesis and dissertation topics at Malloys Bay. The College of Southern Maryland in particular has expressed interest in integrating various components of its current and planned curriculum, in fields such as robotics and remote sensing technology, with the archaeological research of submerged sites.

40. Comment: NOAA received many comments requesting that NOAA should consider a visitor center to support public awareness, education, and interpretation. In addition, the comments suggest NOAA should consider siting of the visitor center to support tourism and possibly to enhance the local economy through visitation.

Response: NOAA agrees that connecting to the public through educational and interpretive programs, exhibits, and interactive experiences, including visitor centers, is an important component of all national marine sanctuaries. Following sanctuary designation, NOAA will work with state and local partners to evaluate the types and locations of educational and interpretive programs and/or infrastructure (e.g., signs and exhibits) needed to support sanctuary management. Visitation and potential economic benefit are among numerous other considerations for a visitor center. If a visitor center is determined to be appropriate and feasible, NOAA will

work in partnership with the county, state, and/or other local authorities with land use jurisdiction to identify planning and funding options.

41. Comment: NOAA received some comments that sanctuary designation would increase tourism, which would benefit the local economy. Sanctuary designation would help to create or support jobs and small business opportunities, especially those associated with visitor services.

Response: NOAA agrees with the potential to increase public interest and visitation to the area as described in the FEIS, sections 5.3.2 and 5.3.4. The sanctuary management plan identifies the needs for studies to document visitation. Charles County initiated a method to track visitation to Mallows Bay Park in Spring 2017, but does not measure public access that originates from other nearby sites. As such, the potential for visitation and demand for services is not known. A study of tourism demand, should it occur, may aid the economic development of the surrounding area particularly for small businesses that cater to nature-based tourism, heritage tourism, recreational fishing, wildlife viewing, kayaking, and boating.

42. Comment: NOAA received several comments that sanctuary designation will have negative economic impacts on local watermen.

Response: NOAA disagrees with this comment. The principal purpose of the sanctuary is to protect, study, interpret, and manage the extensive archaeological and historical resources of the area. Because the authorities for managing fishery resources will remain with the PRFC and Maryland DNR, sanctuary designation will not regulate, alter, or negatively impact commercial or recreational fishing.

43. Comment: NOAA received a few comments expressing concern that placing any new restrictions on the Potomac River will adversely impact the ability of DoD to carry out critical mission training and operations. In addition, MPNMS tourism will result in increased boat traffic on the river, which would interfere with military training and operations.

Response: NOAA disagrees with this comment. In September 2016, the Department of the Navy (DoN) signed on as a cooperating agency to participate in the development of the sanctuary designation documents, including the sanctuary regulations, management plan, and environmental impact statement. DoN coordinated interactions and information exchange between NOAA, Marine Corps Base Quantico, Naval Support Facility Indian Head, Naval Support Facility Dahlgren, and Blossom Point Research Facility (collectively referred to as Department of Defense (DoD)). NOAA, in consultation with the DoN, has established a framework for MPNMS and DoD to co-exist. In developing the proposed rule, NOAA did not anticipate that many, if any, current DoD activities (Appendix F) would adversely impact sanctuary resources. However, following interagency consultation with DoD components (including DoN, the Marine Corps, and the U.S. Army), NOAA revised sections 922.203(c), 922.204, and the terms of designation set forth in Appendix B to MPNMS regulations at 15 CFR part 922, subpart S. In the final regulations, NOAA: (a) clarifies the extent to which the sanctuary prohibitions may apply to DoD activities; (b) clarifies the requirement for DoD to engage in NMSA Section 304(d) consultation; and (c) exempts DoD from the application of emergency regulations issued by NOAA pursuant to

Section 922.204. Additionally, the discussions with DoD identified benefits to DoD from sanctuary education, public outreach, interpretation, and management.

44. Comment: NOAA received a few comments concerned that sanctuary designation will have negative impacts to local businesses and will restrict local development opportunities.

Response: As is the case at other national marine sanctuaries around the country, NOAA believes that the sanctuary will have a positive impact on local businesses and the economies of the surrounding area. The sanctuary management plan identifies the need for studies to document visitation. Charles County initiated a method to track visitation to Malloys Bay Park in Spring 2017, but does not measure public access that originates from other nearby sites. As such, the potential for visitation and demand for services is not known. A study of tourism demand, should it occur, may aid the economic development of the surrounding area particularly for small businesses that cater to nature-based tourism, heritage tourism, recreational fishing, wildlife viewing, kayaking, and boating.

45. Comment: NOAA received a few comments that water quality conditions in the Potomac River may pose a risk to public health.

Response: NOAA does not define water quality as a sanctuary resource and, as such, will not manage water quality conditions nor contributing factors. However, NOAA is interested in water quality as it may impact the wrecks. Therefore, NOAA may monitor water quality through deployment of monitoring buoys or other methods, and may participate in relevant community activities such as trash clean-ups.

46. Comment: NOAA received one comment concerned that special conservation areas that are identified on aeronautical charts would restrict aviation primarily through altitude restrictions and landing requirements.

Response: NOAA's purpose in designating this national marine sanctuary is to protect maritime cultural heritage assets located in the Potomac River. NOAA's analysis of the resources has not found any threats from or impacts to these resources from aircraft. Thus, air space/altitude of aircraft is not identified in the terms of designation as an activity that is subject to regulation. NOAA is precluded from regulating airspace unless change in the terms of designation is issued.

47. Comment: NOAA received one comment expressing concern that NOAA would have insufficient capacity for day-to-day enforcement of the sanctuary.

Response: Upon designation, NOAA will continue to work with agency co-managers and partners to evaluate the need for enforcement specific to the maritime and cultural assets defined as sanctuary resources. Enforcement of natural resources and other activities, that are not related to sanctuary resources, will remain with the existing authorities. NOAA often employs "interpretative" enforcement, through education, public outreach, docents, and similar non-regulatory means, to help inform users and encourage stewardship of the resources.

48. Comment: NOAA received a few comments related to the cost of designating a national marine sanctuary, including a question related to the source of funding for the sanctuary, a comment expressing

concern that federal funds are insufficient for sanctuary enforcement, and another question about funding sources for a visitor center.

Response: As a federal agency, NOAA's budget is passed by Congress and signed into law by the president. NOAA's budget includes an annual allocation for activities at all sights under the management of the Office of National Marine Sanctuaries. The NMSA directs NOAA to protect these nationally significant ecological and historic resources. NOAA makes funding decisions for each sanctuary based on the availability of discretionary appropriations, program priorities, and site needs. As a result, site funding can vary from year to year, which may affect the performance of activities completed in the management plan in any given year. As part of the management plan for this sanctuary, NOAA includes a table that described the sanctuary activities that could be completed at several funding levels (see FMP Appendix 2). NOAA also anticipates varying levels of in-kind contributions from co-managers and partners to help support sanctuary goals.

49. Comment: NOAA received one comment from a non-governmental organization requesting opportunity to review the Memorandum of Agreement (MOA) for joint management of the sanctuary between NOAA, the state of Maryland and Charles County, Maryland.

Response: NOAA, the state of Maryland, and Charles County, Maryland have agreed to enter into a formal agreement, referred to as a MOA. This agreement establishes the framework for joint management and operation of Malloes Bay-Potomac River National Marine Sanctuary, and will be based on language contained in the draft MOA available in Appendix D of the FEIS/FMP.

50. Comment: NOAA received a few comments from organizations requesting seats on the Sanctuary Advisory Council (SAC).

Response: NOAA appreciates the interest from members of the public who want to participate in the SAC. Following designation and pursuant to NMSA Section 315, NOAA will establish and manage a SAC to advise and make recommendations regarding the management of the sanctuary. The SAC may be composed of up to 15 members and, per NMSA Section 315, may include: (a) persons employed by federal and/or state agencies with expertise in management of sanctuary resources and (b) representatives of local user groups (such local user groups may include, but are not limited to, local fishing interests), conservation and other public interest organizations, scientific organizations, educational organizations, or others interested in the protection and multiple use and management of sanctuary resources. In its establishment, NOAA will strive to achieve a balanced advisory council composition that best represents the primary sanctuary users and interests. In determining the composition of the advisory council, NOAA may consult with the state of Maryland and/or Charles County.

COMMENT on the PROPOSED REGULATIONS

51. Comment: NOAA received one comment expressing concern about giving the sanctuary superintendent the power to issue emergency regulations.

Response: As part of the designation, NOAA will have the authority to issue emergency regulations. As described in the proposed rule (82 FR 2254) and in the draft final rule that is set forth in Appendix E of this document, emergency regulations are used in limited cases and under

specific conditions when there is an imminent risk to sanctuary resources and a temporary prohibition would prevent the destruction or loss of those resources. Under the regulations at 15 C.F.R. 922.204, NOAA only issues emergency regulations that address an imminent risk for a fixed amount of time with a maximum of six months that can only be extended a single time. The emergency regulation also cannot take effect without the approval of the governor of Maryland, or his/her designee. Moreover, a full rulemaking process must be undertaken, including a public comment period, to consider making an emergency regulation permanent.

COMMENTS on the NEPA PROCESS

52. Comment: NOAA received two comments requesting NOAA to extend the public comment period beyond March 31, 2017.

Response: NOAA considered these comments during the comment period and declined to extend the comment period. NOAA fully complied with the requirements of the NMSA (16 U.S.C. 1434(a)(1)) and Administrative Procedures Act (5 U.S.C. 553) to provide adequate opportunity for public comment. From January 9 to March 31, 2017, NOAA held an 81-day public comment period, which exceeds the 30-day comment period requirement under APA, to allow the public time to review the proposal and provide comments. NOAA also hosted two public meetings to discuss the proposal and gather comments. In addition to posting a Federal Register notice, NOAA broadcasted the proposed action through extensive national and local media and social media outreach, targeted communications to congressional members and staff, and communications to stakeholders including local/regional conservation NGOs, local tourism agencies and other business interests, local/regional elected officials, university and academic researchers, recreational divers, commercial and recreational fishing interests, and federal/state/local partners.

53. Comment: NOAA received one comment requesting that NOAA coordinate actions under the Endangered Species Act related to the Atlantic sturgeon critical habitat prior to sanctuary designation.

Response: In compliance with requirements under NEPA and the Endangered Species Act (ESA; Section 7(c)), ONMS requested consultation with NOAA's National Marine Fisheries Service (NMFS) to assess whether sanctuary designation might have impacts to Atlantic sturgeon. NMFS determined that due to the lack of identifiable stressors, sanctuary designation would have no effect on any ESA-listed species or critical habitat; see Section 6.1.1 of the FEIS for discussion.

54. Comment: NOAA received a few comments that NOAA needs to conduct additional consultations.

Response: NOAA conducted all required consultations during the preparation of the FEIS. Chapter 6 of the FEIS describes the required federal, state, and other consultations with state-recognized tribes that NOAA undertook under the requirements of the NMSA, National Historic Preservation Act, Endangered Species Act, Magnuson-Stevens Fishery Management and Conservation Act, Coastal Zone Management Act, and relevant executive orders, and the results of those actions.

APPENDIX D: Draft Memorandum of Agreement

Below is a draft final version of the Memorandum of Agreement. The final MOA will be signed by all parties prior to the publication of the final rule finalizing the designation of MPNMS. Should there be any discrepancy between this document and the signed MOA, the signed final MOA shall take precedence.

MEMORANDUM OF AGREEMENT

**PURSUANT TO THE
NATIONAL MARINE SANCTUARIES ACT
16 U.S.C. § 1442(a)**

BETWEEN

**THE U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
OFFICE OF NATIONAL MARINE SANCTUARIES**

AND

THE STATE OF MARYLAND

AND

CHARLES COUNTY, MARYLAND

**FOR THE PURPOSE OF
JOINT MANAGEMENT OF
MALLOWS BAY-POTOMAC RIVER
NATIONAL MARINE SANCTUARY**

I. PARTIES AND PURPOSE

- A. The parties to this Memorandum of Agreement (Agreement) are: (1) the U.S. Department of Commerce (DOC), through the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of National Marine Sanctuaries (ONMS) (collectively, NOAA); (2) the State of Maryland, through the Maryland Department of Planning (MDP) and the Maryland Department of Natural Resources (DNR) (collectively, the State); and (3) Charles County, Maryland (the County). NOAA, the State, and the County are, collectively, the Parties, or, individually, a Party.
- B. The purpose of this Agreement is to prescribe the terms and conditions for the joint management of the Mallows Bay--Potomac River National Marine Sanctuary (MPNMS or Sanctuary).

II. BACKGROUND

- A. Mallows Bay--Potomac River, located within the Maryland waters of the Potomac River off the shores of the Nanjemoy Peninsula of Charles County, contains a nationally significant collection of shipwrecks and other maritime cultural heritage resources. These shipwrecks and maritime cultural heritage resources possess historical, cultural, recreational, educational, and research values of importance to the residents of the County, State, and Nation.
- B. Under a 25-year lease agreement between the County Commissioners of Charles County and DNR, dated February 15, 2006, the County leases from DNR and operates as Mallows Bay Park, 185 acres of land directly adjacent to Mallows Bay and the nationally significant collection of shipwrecks and other maritime cultural heritage resources. Mallows Bay Park is a day-use park and recreation area with a boat ramp allowing the general public to access the water and enjoy the shipwrecks and maritime cultural heritage and natural resources of the site. To further enhance community wellness and quality of life through optimization of the shipwrecks and maritime cultural heritage resources, and promote community sustainability, the County adopted Resolutions 2017-19 and 2014-10, which support the nomination and designation of MPNMS as a national marine sanctuary.
- C. In September 2014, the State submitted a nomination to ONMS for designation of Mallows Bay--Potomac River as a national marine sanctuary to conserve the fragile remains of the Mallows Bay shipwrecks and other maritime cultural heritage resources, foster education and research partnerships, and increase public access, tourism, and economic development. In response to the State of Maryland's nomination to NOAA pursuant to 15 CFR Part 922, Subpart B (Sanctuary Nomination Process), NOAA added Mallows--Potomac River to the inventory in January 2015 and started the sanctuary designation process in October 2015.
- D. NOAA will publish sanctuary designation documents, including regulations at 15 C.F.R. Part 922, which would designate an approximately 18-square mile area of the Potomac River in and around Mallows Bay — including the submerged lands thereof — as MPNMS. The boundary of MPNMS tracks the Mallows Bay-

Widewater Historic and Archeological District, which is listed by the National Park Service on the National Register of Historic Places. MPNMS protects over 120 historic shipwrecks and other maritime cultural heritage resources.

- E. The goals of MPNMS are to: (1) protect the Mallows Bay shipwrecks and other maritime cultural heritage resources located within the boundaries of the sanctuary; (2) educate and interpret for the public the shipwrecks and maritime cultural heritage resources of the Potomac River; (3) conduct research on sanctuary resources (e.g., inventory and document the shipwrecks); (4) enhance recreational opportunities for the enjoyment by the public of sanctuary resources; and (5) ensure coordination and cooperation between NOAA and other relevant State, federal and local authorities.

III. DEFINITIONS

- A. **Director** means the Director of the Office of National Marine Sanctuaries, NOAA, or the Director's designee.
- B. **Emergency** means a serious, often unexpected or unanticipated risk or event requiring immediate action to prevent or minimize the destruction of, or loss of a sanctuary resource, or injury to life, property, or the environment.
- C. **Sanctuary** means the 18-square mile area of the Potomac River in and around Mallows Bay that is designated as MPNMS.
- D. **Sanctuary Advisory Council** means a council established to advise the Sanctuary Superintendent on the management of MPNMS pursuant to 16 U.S.C. § 1445A.
- E. **Sanctuary Management Plan** means, as defined in Section 304(a)(2)(C) of the National Marine Sanctuaries Act (NMSA), 16 U.S.C. § 1434(a)(2)(C), the final management plan (Month, Year) for MPNMS, which includes: (1) the terms of designation; (2) mechanisms to coordinate existing regulatory and management authorities within MPNMS; (3) goals and objectives, management responsibilities, resource studies, and appropriate strategies for managing the shipwrecks and other maritime cultural heritage resources of MPNMS; (4) an evaluation of the advantages of cooperative State and Federal management of MPNMS; (5) an estimate of cost of MPNMS to the Federal Government; and (6) the final regulations.
- F. **Sanctuary Regulations** means the final rule governing MPNMS, which NOAA intends to publish at 15 C.F.R. Part 922, Subpart S.
- G. **Sanctuary Resources** means, as defined in 15 C.F.R. § 922.3 and the proposed MPNMS regulation 15 C.F.R. § 922.201(a)(1) currently published at 82 Fed. Reg. 2254, 2264, any resource possessing historical, cultural, archaeological or paleontological significance, including sites, contextual information, structures, districts, and objects significantly associated with or representative of earlier people (e.g., American Indians), cultures, maritime cultural heritage, and human activities and events. For MPNMS, the definition includes, but is not limited to, any sunken watercraft and any associated rigging, gear, fittings, trappings and

equipment; the personal property of the officers, crew, and passengers, and any cargo; and any submerged or partially submerged prehistoric, historic cultural remains, such as docks, piers, fishing-related remains (e.g., weirs or fish traps) or other cultural heritage materials.

- H. **Sanctuary Superintendent** means the federal employee or designee appointed by NOAA, who will be responsible for the daily operations and activities of MPNMS.
- I. **Terms of Designation** means the written document developed in accordance with Section 304(a)(4) of the NMSA, 16 U.S.C. § 1434(a)(4), that describes: (1) the geographic area proposed to be included within the sanctuary; (2) the characteristics of the area that give it conservation, recreational, ecological, historical, research, educational, or aesthetic value; and (3) the types of activities that will be subject to regulation by the Secretary of Commerce, acting through NOAA to protect those characteristics.

IV. AUTHORITIES

- A. The legal and programmatic authority for NOAA to enter into this Agreement is the NMSA, 16 U.S.C. §§ 1431 *et seq.* The NMSA provides the Secretary of Commerce, acting through NOAA, with authority to: (1) identify and designate as national marine sanctuaries areas of the marine and Great Lakes environment which are of special national significance; (2) manage these areas as the National Marine Sanctuary System; (3) provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities; (4) enhance public awareness, understanding, appreciation, and wise and sustainable use of the marine environment, and the natural, historical, cultural, and archaeological resources of the National Marine Sanctuary System; (5) support, promote, and coordinate scientific research on, and long-term monitoring of, the resources of these marine areas; (6) facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities; (7) develop and implement coordinated plans for the protection and management of these areas with appropriate Federal agencies, State and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas; (8) create models of, and incentives for, ways to conserve and manage these areas, including the application of innovative management techniques; and (9) cooperate with global programs encouraging conservation of marine resources.
- B. Section 311 of the NMSA, 16 U.S.C. § 1442, provides NOAA with authority to enter into cooperative agreements, grants, contracts, or other agreements with any state, local government, regional agency, interstate agency, or other person to carry out the purposes or policies of the NMSA. Under this same provision, NOAA may also enter into agreements with any state or other Federal agency to use the personnel, services, or facilities of such agency on a reimbursable or non-reimbursable basis, to carry out the purposes and policies of the NMSA.

- C. As an inherent attribute of its sovereignty, the State has the authority to enter into agreements with other parties. Lands owned by the State, which include the State's navigable waters, submerged lands, and bottomlands, are held by the State for the use and benefit of the People of Maryland. The State, through DNR, is charged with conservation and protection of the State's natural resources. The State, through MDP, is also charged with preserving submerged historic and archaeological resources located within the State. Specifically:
1. Pursuant to § 8-202(a) of the Natural Resources Article, Annotated Code of Maryland, DNR is responsible for planning, development, management, and conservation of the Chesapeake Bay and any other tidal waters of the State, including shoreline areas, submerged lands, and any natural resources associated with these waters. DNR may: (a) plan and develop public recreational facilities in or on the waters of the Chesapeake Bay and other tidal waters; (b) assist other State units to plan public recreational facilities for the Chesapeake Bay and other tidal waters; (c) cooperate with other units to carry out measures to protect tidal waterfronts and waterways of the State against erosion and deposit; and (d) act for the State to develop further navigation aids and improvement of waterways in the Chesapeake Bay and other tidal water areas of the State; and
 2. Pursuant to Title 5A of the State Finance and Procurement Article, Annotated Code of Maryland, MDP has authority to ensure the preservation of submerged archaeological resources located within the lands of the State.
- D. As a body politic and corporate of the State of Maryland, the County Commissioners of Charles County, Maryland has legal and programmatic authority to enter into this Agreement through the following State laws and County Resolutions:
1. Section 12-901(b) of the Local Government Article, Annotated Code of Maryland, which provides the County with authority to provide, maintain and operate community, social and recreational services that promote the health and welfare of residents;
 2. Section 1-610 of the Local Government Article, Annotated Code of Maryland, which provides the County with authority to join or cooperate with a Federal or State unit to maintain a park or recreational facility, or provide recreational activity; and
 3. Resolution Number 2016-06, which provides the President of the County Commissioners, as Chief Executive Officer, with authority to execute all legal documents and contracts in accordance with County Code, regulations, and policies, State law, and Federal law.

V. ROLES AND RESPONSIBILITIES

- A. NOAA, the State, and the County will:

1. Jointly manage MPNMS and the maritime cultural heritage resources located within its boundaries in a manner consistent with the NMSA, Maryland law governing the protection of maritime cultural heritage resources, the Sanctuary Management Plan, this Agreement, and any other agreements entered into by any Party to assist or further the management of MPNMS.
2. Include within all communications with the public (e.g., public presentations, documents for public use, and communications with media) a statement that references the joint management arrangement established by this Agreement. This statement shall read in substance and form as follows: "Mallows Bay--Potomac River National Marine Sanctuary is a joint endeavor between NOAA, the State of Maryland, and Charles County." Use of a Party's agency logo on printed or electronic material shall be in accordance with U.S. Department of Commerce and State of Maryland use policies, and may be subject to advance approval.
3. Collaborate in planning and conducting joint research, education, and outreach activities throughout MPNMS.
4. Consult in the development, implementation, and review of sanctuary-related management plan activities, and meet at least once annually to address issues related to operation and management of MPNMS.
5. Immediately notify the other Parties upon learning of an Emergency and provide those Parties an opportunity to participate in the development of an appropriate response to the Emergency.

B. NOAA will:

1. Appoint Federal staff, who will be responsible for the daily operations and activities of MPNMS.
2. Establish procedures, mechanisms, and/or separate agreements, as may be necessary, to coordinate the issuance of sanctuary-related permits, certifications, or authorizations to allow regulated activities to be conducted within MPNMS.
3. Establish procedures, mechanisms, and/or separate agreements with the State and Federal regulatory, management and/or enforcement agencies, as may be necessary, to carry out the joint enforcement of sanctuary regulations.
4. Pursuant to Section 315 of the NMSA, 16 U.S.C. § 1445(a), establish and manage a Sanctuary Advisory Council to provide recommendations to the Sanctuary Superintendent, ONMS, NOAA, or DOC, as appropriate, regarding the management of MPNMS. This advisory council may be comprised of up to fifteen (15) members. Members of the advisory council may include: (a) persons employed by Federal and/or State agencies with expertise in management of sanctuary resources; and (b) representatives of local user groups (such local user groups may include, but are not limited to, local fishing interests), conservation and other public interest

organizations, scientific organizations, educational organizations, or other organizations or persons interested in the protection and multiple use management of sanctuary resources. In its establishment, NOAA will strive to achieve a balanced advisory council composition that best represents the primary sanctuary users and interests. In determining the composition of the advisory council, NOAA will consult with the State and the County in accordance with section 6.3 of the proposed Sanctuary Management Plan.

C. For the State:

The Secretary of MDP, or that Secretary's designee, and the Secretary of DNR, or that Secretary's designee, shall serve as liaisons responsible for all coordination with the Sanctuary Superintendent and County on all matters related to management of MPNMS.

D. Charles County will:

Appoint a representative from the County to serve as a liaison responsible for all coordination with the Sanctuary Superintendent and the State on all matters related to management of MPNMS.

VI. OTHER TERMS AND CONDITIONS

- A. MPNMS management is focused on the protection and preservation of Sanctuary Resources. The boundary, description of the Sanctuary Resources, and activities subject to regulation for MPNMS will be set forth in the Terms of Designation. Pursuant to Section 304 of the NMSA, 16 U.S.C. § 1434, the Terms of Designation may be modified only by the same procedures by which the original designation was made. In such an event, the Governor of Maryland may certify to NOAA that the designation or any of its terms is unacceptable, in which case the designation or the unacceptable term shall not take effect in the area of the sanctuary lying within the seaward boundary of the State.
- B. Activities carried out in MPNMS shall be conducted in a manner that is consistent with the Sanctuary Regulations promulgated at 15 C.F.R. Part 922, Subpart S, and such activities shall not destroy, cause loss of, or injure Sanctuary Resources. Any amendments (except editorial or technical corrections) to the Sanctuary Regulations at 15 C.F.R. Part 922, Subpart S, require the approval of the Governor of Maryland.
- C. This Agreement does not:
1. Convey title of the State-owned navigable waters, submerged lands, bottomlands, subsurface resources, or maritime cultural heritage resources included in MPNMS to NOAA, nor does the State relinquish sovereignty over any of these State-owned navigable waters, submerged lands, bottomlands, subsurface resources, or maritime cultural heritage resources that are included in MPNMS.

2. Interfere with the February 2006 lease agreement between the Commissioners of Charles County and DNR for the operation of Mallows Bay Park. Any future development proposed by Charles County on land subject to the lease shall continue to be reviewed and approved by DNR in accordance with the terms of the lease agreement.
 3. Interfere with the authority of any State or local permitting or zoning authorities regarding development along the Potomac River shoreline areas of MPNMS, including, but not limited to, the authority of either the Critical Area Commission for the Chesapeake and Atlantic Coastal Bays or the Maryland Department of Environment.
 4. Restrict commercial and/or recreational fishing, boating, hunting, or trapping within MPNMS, or along the Potomac River shoreline areas of MPNMS. Such activities continue to be regulated by the State of Maryland and/or the Potomac River Fisheries Commission.
- D. Pursuant to 15 C.F.R. § 922.204, the imposition, extension, or renewal of Emergency regulations governing MPNMS shall not become effective unless approved by the Governor of Maryland, or the Governor's designee or designated agency.

VII. REVIEW OF THE MANAGEMENT PLAN

- A. Section 304(e) of the NMSA, 16 U.S.C. § 1434, requires the Secretary of Commerce to review the Sanctuary's Management Plan and implementing regulations every five (5) years from the date of Sanctuary designation, evaluate the substantive progress made toward implementing the management plan and goals for the sanctuary, and revise the Management Plan and regulations if deemed necessary. The MPNMS management plan review process is also intended to provide the State of Maryland with: 1) an opportunity to evaluate the management and regulations of MPNMS; and 2) a mechanism through which to resolve any concerns the State may have regarding MPNMS, its management plan, or implementing regulations.
- B. Since (a) protection of the historic shipwrecks within the sanctuary is the primary objective of MPNMS; (b) the sanctuary is relatively small (approximately 18 square miles) and located entirely within the State waters of a narrow portion of the Potomac River; and, (c) the State has concerns about the potential impacts of sanctuary designation to commercial and recreational fishing activities within the sanctuary, the following process shall apply only to the MPNMS five- and ten-year management plan reviews:
1. Within 60 days before the five- and ten-year anniversary date of the designation, the Governor of Maryland may submit to the Secretary of Commerce written findings that the designation of the sanctuary is having measurable negative impacts on the State's commercial and/or recreational fishing industry. The written findings shall include descriptions of:

- i. The fishing activity or class of fishing activities that have been negatively impacted;
 - ii. The manner and extent of the impact;
 - iii. How the sanctuary has caused these impacts;
 - iv. How the impacts have been measured; and,
 - v. Proposed MPNMS changes to address the concerns.
2. If the Governor submits the written findings described in Section VII.B.1., the Secretary of Commerce shall propose re-designation of MPNMS, and make available to the public all elements of the sanctuary designation documents as set forth in NMSA Section 304(a)(2), 16 U.S.C. § 1434(a)(2) (hereafter “re-designation documents”). Any proposed changes to address the concerns raised by the Governor in the written findings shall be included in the re-designation documents. If the Governor determines that the re-designation documents do not adequately address the concerns raised in the written findings, the governor may, during NMSA Section 304(b)(1), 16 U.S.C. § 1434(b)(1), 45-day period of continuous session of Congress review period, certify to the Secretary that the designation or any of its terms are unacceptable. Following such certification, by operation of the NMSA, the designation or any unacceptable term(s) shall not take effect in Maryland waters.

VIII. ALLOCATION OF MONETARY AWARDS

NOAA agrees that any amounts recovered as civil penalties for violations of the NMSA and its implementing regulations that occur in MPNMS shall be allocated in accordance with Section 307 of the NMSA, 16 U.S.C. § 1437(f)(1)(C), which guarantees first priority to the management and improvement of MPNMS, where the violation occurred. In addition, any monetary recovery for response cost and damages or injuries to sanctuary resources of MPNMS shall be allocated in accordance with section 312(d) of the NMSA, 16 U.S.C. § 1443(d).

IX. FUNDING, PROGRAMMING, PAYMENT, AND REIMBURSEMENT ARRANGEMENTS

This Agreement is not a fiscal or funds obligation document, and cannot be used to obligate, commit, or establish the basis for the transfer of funds among the Parties. Support of MPNMS, implementation of the sanctuary management plan, and implementation of annual work plans shall be subject to the availability of funds. Any activities involving reimbursement or transfer of funds among the Parties will be handled in accordance with applicable law, regulations, and procedures. Such activities will be documented in a separate legal instrument.

X. CONTACTS

- A. The points of contact for written notices and other administrative activities under this Agreement are:

NOAA

Matt Brookhart

Eastern Region Director

NOAA Office of National Marine Sanctuaries

1305 East West Hwy

Silver Spring MD 20910

State of Maryland

Maryland Department of Planning

Susan Langley

State Underwater Archaeologist

Maryland Historical Trust

100 Community Place, 2nd Floor

Crownsville, MD 21032

Maryland Department of Natural Resources

Nita Settina

Superintendent, Maryland Park Service

Department of Natural Resources

580 Taylor Avenue, E-3

Annapolis, MD 21401

County

Eileen B. Minnick

Director, Recreation Parks and Tourism

8190 Port Tobacco Road

Port Tobacco, MD 20677

- B. The Parties agree that if a Party intends to change a point of contact as identified in this section, the Party making the change shall notify the other Parties in writing of such change. A change to this section shall not require an amendment to this Agreement.

XI. DURATION OF AGREEMENT, AMENDMENTS, OR TERMINATION

- A. **Effective Date.** Pursuant to section 304(b) of the NMSA, 16 U.S.C. § 1434(b), this Agreement shall take effect on the date in which the MPNMS designation and implementing sanctuary regulations take effect and become final. NOAA will publish a notice of the effective date of the final sanctuary regulations in the Federal Register.
- B. **Amendments/Renewals.** An amendment to or renewal of this Agreement shall be in writing and shall not be effective unless properly executed by every Party to the Agreement.
- C. **Withdrawal.** The County may withdraw from participating in this Agreement by providing written notice to the other Parties, and such withdrawal shall be effective sixty (60) days following receipt of such notice. The County's withdrawal shall not affect the MPNMS designation or impair the validity and continued effectiveness of this Agreement as applied to NOAA and the State.
- D. **Termination.** This Agreement may only be terminated by: (1) the written mutual consent of all Parties; or (2) written notice by more than one Party. Such termination shall be effective six (6) months following the date of the written mutual consent or the latest date of written notice. Termination of this Agreement, in and of itself, does not rescind the MPNMS Terms of Designation or affect any regulations promulgated under the NMSA.
- E. **Relationship Among the Parties.** The Parties are agencies of the federal, State, or local government. No Party is an employee, agent, partner, franchise or joint venture of another Party. No Party shall have the right to bind the other Parties to any agreement with a third party or to incur any obligation or liability on behalf of another Party that stems or results from that Party's conduct under or to further this Agreement.
- F. **No Assignment or Delegation.** No Party may assign any rights or interest, nor delegate duties under this Agreement to a third party without the express prior written permission of the other Parties to this Agreement; any attempted assignment or delegation shall be wholly void and totally ineffective for all purposes.

- G. **Entire Agreement.** This Agreement constitutes the entire understanding among the Parties with respect to its subject matter and supersedes any and all prior or contemporaneous understandings and agreements, whether oral or written.
- H. **Counterparts.** This Agreement may be signed in one or more counterparts, each of which shall be deemed an original and all of which, together shall constitute one document. Original signatures delivered by means of facsimile or other electronic communication shall be considered to be original signatures.
- I. **Review of Agreement.** As part of the management plan review process described in Section VII, the Parties intend to review this Agreement to determine whether it should be revised or terminated.

XII. RESOLUTION OF DISAGREEMENTS

Should disagreement between the State and/or the County and NOAA arise on any matter regarding joint management of MPNMS, the State and County shall make reasonable efforts to seek consensus before submitting a written position concerning the area(s) of disagreement to NOAA. If NOAA disagrees on any matter regarding joint management of MPNMS, NOAA will submit a written position concerning the area(s) of disagreement to the State and County. The Parties shall discuss and make reasonable efforts to promptly resolve the disagreement. If, within thirty (30) days of the exchange of written positions, the Parties fail to resolve the disagreement, the Parties may refer the matter to a higher level of authority within the Parties' respective organizations. Ultimate resolution of the disagreement shall be consistent with the NMSA, 16 U.S.C. §§ 1431 *et seq.*, and shall not impair the care and management of the sanctuary resources.

XIII. APPROVALS

ACCEPTED AND APPROVED FOR THE
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

BY: _____

DATE: _____

John Armor

Director

Office of National Marine Sanctuaries

ACCEPTED AND APPROVED FOR THE
STATE OF MARYLAND

BY: _____

Secretary

Department of Natural Resources

DATE: _____

BY: _____

Secretary

Maryland Department of Planning

DATE: _____

ACCEPTED AND APPROVED FOR
CHARLES COUNTY, MARYLAND

BY: _____

Reuben B. Collins, II, Esq.
President

Board of Charles County Commissioners

DATE: _____

APPENDIX E: Draft Version of Final Rule and Terms of Designation for Mallows Bay-Potomac River National Marine Sanctuary

This draft version of the final rule does not constitute the final agency action. For the official version of the final rule, see Federal Register notice published no earlier than 30 days after publication of the final environmental statement. Should there be any discrepancy between this document and the final rule published in the Federal Register, the latter shall take precedence.

Mallows Bay-Potomac River National Marine Sanctuary Designation; Final Regulations

AGENCY: Office of National Marine Sanctuaries (ONMS), National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC).

ACTION: Final rule.

SUMMARY: The National Oceanic and Atmospheric Administration (NOAA) issues final regulations to implement the designation of the Mallows Bay-Potomac River National Marine Sanctuary (MPNMS or sanctuary). The area is 18 square miles of waters and submerged lands encompassing and surrounding the Mallows Bay area of the tidal Potomac River. The area is also located entirely within Maryland state waters, adjacent to the Nanjemoy Peninsula of Charles County, Maryland. The sanctuary protects nationally-significant maritime cultural heritage resources, including the fragile, historic remains of more than 100 World War I (WWI) - era U.S. Emergency Fleet Corporation (USEFC) wooden steamships known as the “Ghost Fleet,” vessels related to the historic ship-breaking operations, other non-USEFC vessels of historic significance, and related maritime debris fields. The area also includes Native American sites, remains of historic fisheries operations, and Revolutionary and Civil War battlescapes. The significance of the area is recognized through its listing on the National Register of Historic Places (National Register Listing Number 15000173, April 24, 2015). NOAA, the State of Maryland, and Charles County, Maryland will jointly manage MPNMS.

DATES: Effective Date: Pursuant to section 304(b) of the National Marine Sanctuaries Act (NMSA) (16 U.S.C. 1434(b)), the designation and regulations shall take effect and become final after the close of a review period of forty-five days of continuous session of Congress, beginning on the date on which this notice of federal rulemaking is published unless the Governor of the State of Maryland certifies to the Secretary of Commerce during that same review period that the designation or any of its terms is unacceptable, in which case the designation or any unacceptable term shall not take effect. The public can track the days of Congressional session at the following website: <https://www.congress.gov/days-in-session>. After the close of the forty-five days of continuous session of Congress, NOAA will publish a notice of the effective date of the final regulations in the Federal Register.

ADDRESSES: Copies of the final environmental impact statement and final management plan (FEIS/FMP) described in this rule and the record of decision (ROD) are available upon request

to: Mallows Bay-Potomac River National Marine Sanctuary, c/o NOAA Office of National Marine Sanctuaries, 1305 East West Hwy., 11th Floor, Silver Spring, MD 20910., Attention: Paul Orlando, Regional Coordinator. The FEIS/FMP is also available for viewing and download at <http://sanctuaries.noaa.gov/mallows-potomac>.

FOR FURTHER INFORMATION CONTACT: Paul Orlando, Regional Coordinator, Office of National Marine Sanctuaries at 240-460-1978, paul.orlando@noaa.gov, or Mallows Bay-Potomac River National Marine Sanctuary, c/o NOAA Office of National Marine Sanctuaries, 1305 East West Hwy., 11th Floor, Silver Spring, MD 20910., Attention: Paul Orlando, Regional Coordinator.

SUPPLEMENTARY INFORMATION:

I. BACKGROUND

The National Marine Sanctuaries Act (NMSA; 16 U.S.C. 1431 *et seq.*) authorizes the Secretary of Commerce (Secretary) to designate and protect as national marine sanctuaries areas of the marine environment that are of special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or aesthetic qualities. Day-to-day management of national marine sanctuaries has been delegated by the Secretary to NOAA's Office of National Marine Sanctuaries (ONMS). The primary objective of the NMSA is to protect the sanctuary system's biological and cultural resources, such as coral reefs, marine animals, historic shipwrecks, historic structures, and archaeological sites.

1. Mallows Bay-Potomac River National Marine Sanctuary

The Mallows Bay-Potomac River National Marine Sanctuary is an 18-square-mile area of the tidal Potomac River located 40 miles south of Washington, DC, off the Nanjemoy Peninsula of Charles County, Maryland. It is an area of national significance featuring unique historical, archaeological, cultural, ecological, and aesthetic resources and qualities, and offers opportunities for conservation, education, recreation, and research. Its maritime landscape is home to a diverse collection of historic shipwrecks that date back to the Civil War, and potentially to the American Revolutionary War, totaling more than 100 known vessels. Included among these vessels are the sunken remains of the largest “Ghost Fleet”, wooden steamships built for the U.S. Emergency Fleet during World War I (WWI). The fleet was constructed at more than 40 shipyards in 17 states as part of a massive national wartime preparation. The sanctuary’s archaeological and cultural resources cover centuries of history dating back from the earliest American Indian presence in the region approximately 12,000 years ago to the Revolutionary, Civil and two World Wars, as well as successive regimes of Potomac fishing industries. The significance of this area is recognized through its listing on the National Register of Historic Places (National Register Listing Number 15000173, April 24, 2015).

The Maryland Department of Natural Resources (DNR), Maryland Historical Trust (MHT), Maryland Department of Tourism, and Charles County, MD, collaborated with community partners to implement conservation and compatible public access strategies in and around Mallows Bay, consistent with numerous planning and implementation documents. In 2010, DNR purchased a portion of land adjacent to Mallows Bay and made it available by a lease agreement to Charles County for the creation and management of Mallows Bay County Park, the main

launch point for access to the historic shipwrecks. Pursuant to the National Historic Preservation Act (NHPA), the MHT has stewardship and oversight responsibility for the shipwrecks, along with hundreds of other historic non-shipwreck sites around the state. DNR manages the waterbody and associated ecosystem resources, including land use, resource conservation and extraction activities. The lands on either side of Malloys Bay County Park are held by the U.S. Department of Interior, Bureau of Land Management, and a private citizen.

2. Need for Action

The designation would allow NOAA to complement current state-led efforts to conserve and manage the nationally significant maritime cultural heritage resources in the sanctuary while enhancing public awareness and appreciation, and facilitating to the extent compatible with the primary objective of resource protection, all public and private uses (including recreation and tourism), as directed by the NMSA. The threats to these resources are related to actions or conditions that result in the damage or loss of the historic resources. Over time, direct damage both intentionally and unintentionally has occurred from breaking, relocation of artifacts, defacing and physical alteration, burning, and removal of historic artifacts from the area. Additionally, indirect damage to the resources has occurred from the accumulation and entanglement of marine debris around the resources and from weather-related processes such as wind, flood, and ice events.

NOAA will concentrate on the protection, access and interpretation of the maritime cultural features of the area, including the Ghost Fleet, other vessels of historic significance, and related maritime infrastructure. The State of Maryland currently has a comprehensive set of management measures for the protection of the natural environment, including wildlife, fish, birds, water quality, and habitat. As such, NOAA's sanctuary regulations will focus only on the protection of the shipwrecks and associated maritime cultural heritage resources.

Although the Maryland Submerged Archaeological Historic Property Act (Md. Code Ann., State Fin. & Proc. sections 5A-333 et seq.) provides a basic level of protection for maritime cultural heritage resources in Malloys Bay and adjacent areas of the Potomac River, the sanctuary will allow NOAA's management under the NMSA to supplement and complement the existing authority and the current management framework in the area. The sanctuary will address ongoing threats to the maritime cultural heritage resources while providing opportunities for research, education, recreation, and tourism through coordinated and comprehensive management and conservation of the resources in collaboration with the State of Maryland and Charles County. NOAA will also carry out education, science, and interpretative programs that describe the relationship between the shipwreck structures and the natural system ecosystem.

3. Procedural History

a. Sanctuary Nomination and Public Scoping

On September 16, 2014, pursuant to section 304 of the NMSA and the Sanctuary Nomination Process (SNP; 79 FR 33851), a coalition of community groups submitted a nomination to NOAA seeking designation of Malloys Bay-Potomac River as a national marine sanctuary. The nomination cited conservation goals to protect and conserve the fragile, historic remains of the nation's cultural heritage as well as the opportunities to expand public access, recreation, tourism, research, and education to the area. The nomination was endorsed by a diverse coalition

of organizations and individuals at local, state, regional, and national levels including elected officials, businesses, Native American, environmental, recreation, conservation, fishing, tourism, museums, historical societies, and education groups. The nomination identified opportunities for NOAA to protect, study, interpret, and manage the area's unique resources, including by building on existing local, county, and State of Maryland efforts to manage the area for the protection of shipwrecks. NOAA's review of the nomination against the criteria and considerations of the SNP, including the requirement for broad-based community support indicated strong merit in proposing this area as a national marine sanctuary.

NOAA completed its review of the nomination and, on January 12, 2015, added the area to the inventory of nominations that are eligible for designation. All nominations submitted to NOAA can be found at: <http://www.nominate.noaa.gov/nominations/>.

On October 7, 2015, NOAA initiated the public scoping process with the publication of a Notice of Intent in the Federal Register (NOI; 80 FR 60634), soliciting public input on the proposed designation and informing the public of the Agency's intentions to prepare a draft environmental impact statement (DEIS) evaluating alternatives related to the proposed designation of MPNMS under the NMSA. That announcement initiated a 90-day public comment period during which time NOAA solicited additional input related to the scale and scope of the proposed sanctuary, including ideas presented in the community nomination. The NOI also announced NOAA's intent to fulfill its responsibilities under the requirements of the National Historic Preservation Act (NHPA).

In November 2015, NOAA held two public meetings and provided additional opportunities for public comments by mail and through a web portal (<https://www.regulations.gov/#!docketDetail;D=NOAA-NOS-2015-0111>). The comment period closed on January 15, 2016. All comments received, through any of these formats, are posted on the www.regulations.gov web portal. These public scoping comments were used by NOAA in preparing the proposed sanctuary regulations and draft environmental impact statement and draft management plan (DEIS/DMP) associated with the proposed sanctuary designation.

b. Designation Process

On January 9, 2017, NOAA published a notice in the Federal Register announcing the proposed designation of approximately 52 square miles of waters of the tidal Potomac River as a national marine sanctuary (82 FR 2254). NOAA also provided public notice of the availability of the related DEIS/DMP (82 FR 2254; 82 FR 1733). All three documents (proposed rule, DEIS, and DMP) were prepared in close consultation with the State of Maryland and Charles County, Maryland. NOAA opened an 81-day public comment period on the proposed rule, DEIS, and DMP, which closed on March 31, 2017. During the comment period, NOAA also held two separate public meetings in La Plata, Maryland and in Arnold Maryland.

All written comments are available at <https://www.regulations.gov/docket?D=NOAA-NOS-2016-0149>. NOAA's response to public comments are included in Appendix C of the final environmental impact statement (FEIS) and final management plan (FMP), which was made available on May 31, 2019 (insert reference after publication of FEIS), and in Section IV of this document.

II. CHANGES FROM PROPOSED TO FINAL REGULATIONS

Based on public comments received between January and March 2017, internal deliberations, interagency consultations, discussions with state-recognized Indian tribes, consultation with the Department of Navy (DoN) (as a cooperating agency in the preparation of the environmental impact statement), meetings with constituent groups, and evaluation of this input with the State of Maryland and Charles County, NOAA has made the following changes to the proposed rule. NOAA has also made conforming changes to the FEIS/FMP.

1. Sanctuary Boundary

In response to public comments and discussions with the State of Maryland, Charles County, Maryland, the DoN, NOAA decided to adopt Alternative B in the DEIS and designate 18 square miles of waters and submerged lands encompassing and surrounding the Malloys Bay area of the tidal Potomac River. The boundary begins at the mean high tide level on the Maryland side, extends across the Potomac River to the Virginia-Maryland state boundary line, and follows the boundary of the National Register Malloys Bay-Widewater Historic and Archeological District. The area also closely matches the boundary submitted to NOAA by the Governor of Maryland in the sanctuary nomination package. This contains a concentration of 142 historic USEFC vessels, vessels related to historic ship-breaking activities, other non-USEFC vessels of historic significance, and related maritime debris fields. The area also includes Native American sites, remains of historic fisheries operations such as sturgeon and caviar industries, and Revolutionary and Civil War battlescapes.

2. Department of Defense Activities

NOAA, in consultation with the DoN, has established a framework for MPNMS and DoD to co-exist. In developing the proposed rules, NOAA did not anticipate that many, if any, current DoD activities would adversely impact sanctuary resources. However, following interagency consultation with DoD components (including DoN, the Marine Corps, and the U.S. Army), NOAA revised section 922.203(c), 922.204, and the terms of designation set forth in Appendix B to the MPNMS regulations at 15 CFR part 922, subpart S. In the final regulations, NOAA: a) clarifies the extent to which the sanctuary prohibitions may apply to DoD activities; b) clarifies the requirement for DoD to engage in NMSA section 304(d) consultation; and c) exempts DoD from the application of emergency regulations issued by NOAA pursuant to section 922.204.

III. SUMMARY OF FINAL REGULATIONS FOR MPNMS

With this final rule, NOAA is implementing the following regulations for MPNMS.

1. Add New Subpart S to Existing National Marine Sanctuary Program Regulations

NOAA amends 15 CFR part 922 by adding a new subpart (subpart S) that contains site-specific regulations for MPNMS. This subpart includes the boundary, contains definitions of common terms used in the new subpart, provides a framework for joint-management of the sanctuary, identifies prohibited activities and exceptions, and establishes procedures for certification of existing uses, permitting otherwise prohibited activities, and emergency regulation procedures. Several conforming changes are also made to the national regulations as described in detail below.

NOAA is concurrently working on designating a separate new national marine sanctuary in Wisconsin's Lake Michigan waters as part of a separate rulemaking process (82 FR 2269). The regulations implementing the designation of Wisconsin Shipwreck Coast National Marine Sanctuary would be published in subpart T.

2. Sanctuary Name

The name of the sanctuary is “Mallows Bay-Potomac River National Marine Sanctuary” and is abbreviated as MPNMS. The name is based on the nomination submitted by the community.

3. Sanctuary Boundary

The Mallows Bay-Potomac River National Marine Sanctuary consists of an area of approximately 18 square miles of waters of the State of Maryland and the submerged lands thereunder associated with the underwater cultural resources in the Potomac River. The western boundary of the sanctuary approximates the border between the Commonwealth of Virginia and the State of Maryland along the western side of the Potomac River and begins at Point 1 north of the mouth of Aquia Creek in Stafford County Virginia near Brent Point. From this point the boundary continues to the north approximating the border between Virginia and Maryland cutting across the mouths of streams and creeks passing through the points in numerical order until it reaches Point 40 north of Tank Creek. From this point the sanctuary boundary continues east across the Potomac River in a straight line towards Point 41 until it intersects the Maryland shoreline just north of Sandy Point in Charles County MD. From this intersection the sanctuary boundary then follows the Maryland shoreline south around Mallows Bay, Blue Banks, and Wades Bay cutting across the mouths of creeks and streams along the eastern shoreline of the Potomac River until it intersects the line formed between Point 42 and Point 43 just south of Smith Point. Finally, from this intersection the sanctuary boundary crosses the Potomac River to the west in a straight line until it reaches Point 43 north of the mouth of Aquia Creek in Stafford County Virginia near Brent Point.

The detailed legal boundary description is included in section 922.200 and the coordinates are located in 15 CFR part 922, subpart S, appendix A. A map of the area is shown in the FEIS (Chapter 3.2), and can also be found at <https://sanctuaries.noaa.gov/mallows-potomac/>.

4. Definitions

NOAA narrowly defines “sanctuary resources” for MPNMS to include only the maritime cultural heritage resources of the sanctuary in accordance with the purpose of the designation. The definition does not include biological and ecological resources of the area already managed by the State of Maryland. Creating this site-specific definition requires NOAA to modify the national definition of “sanctuary resource” in the national regulations at section 922.3 to add an additional sentence that defines the site-specific definition for MPNMS at section 922.201(a). This is similar to the approach taken for other national marine sanctuaries that do not share the full national “sanctuary resource” definition, such as Thunder Bay National Marine Sanctuary.

NOAA also adds a definition in the MPNMS regulations at section 922.201(a) for sanctuary resource that uses the national definition for “historical resources” set forth in 922.3 and expands the site-specific definition of sanctuary resource to specifically provide examples of the types of

resources in MPNMS that fall within that definition. The national definition of “historical resources” at section 922.3 includes resources that possess historical, cultural, archaeological or paleontological significance, such as sites, contextual information, structures, districts, and objects significantly associated with or representative of earlier people, cultures, maritime heritage, and human activities and events. These historical resources also include “cultural resources,” “submerged cultural resources,” and also include “historical properties,” as defined in the National Historic Preservation Act.

The MPNMS definition of sanctuary resources is then defined in section 922.201 to include historical resources as defined by section 922.3. This includes any sunken watercraft and any associated rigging, gear, fittings, trappings, and equipment. It also includes personal property of the officers, crew, and passengers, and any cargo, as well as any submerged or partially submerged prehistoric, historic cultural remains, such as docks, piers, fishing-related remains (e.g. weirs, fish-traps) or other cultural heritage materials. For MPNMS, sanctuary resource also means any archaeological, historical, and cultural remains associated with or representative of historic or prehistoric American Indians and historic groups or peoples and their activities.

This final rule incorporates and adopts other common terms defined in the existing national regulations at section 922.3; some of those terms include: “Cultural resources,” which means any historical or cultural feature, including archaeological sites, historic structures, shipwrecks, and artifacts; and “National Marine Sanctuary” or “Sanctuary,” which means an area of the marine environment of special national significance due to its resource or human-use values, which is designated as such to ensure its conservation and management.

Based on public comments and consultation with partners, the final rule adds a definition in the MPNMS regulations at section 922.201 for “Traditional fishing, which means those commercial, recreational, and subsistence fishing activities that were customarily conducted within the Sanctuary prior to its designation or expansion, as identified in the relevant Final Environmental Impact Statement and Management Plan for this Sanctuary.”

5. Joint Management of the Sanctuary

NOAA, the State of Maryland, and Charles County, Maryland will jointly manage MPNMS. NOAA established the framework for joint management at section 922.202 and memorialized the operational details to coordinate sanctuary management in a draft Memorandum of Agreement (MOA). Any significant changes to the regulations or management plan would be jointly coordinated. The MOA is found in Appendix D in the FEIS.

6. Prohibited and Regulated Activities

NOAA will regulate three activities for MPNMS, found in section 922.203(a), and summarized below.

a. Damaging Sanctuary Resources

MPNMS regulations prohibit any person from or causing the moving, removing, recovering, altering, destroying, possessing, or otherwise injuring, or attempting to move, remove, recover, alter, destroy, possess or otherwise injure a sanctuary resource, except as an incidental result of

traditional fishing. This sanctuary prohibition on possessing a sanctuary resources does not apply retroactively to historical resources removed from the sanctuary prior to designation.

Maryland state regulations related to the limited removal of historical resources, which have been in effect since July 1, 1988, currently do not apply to these resources as limited removal is not allowed within the boundaries of National Register of Historic Places listed sites. Collection, excavation, or other comparable activities within the Mallows Bay-Widewater Archeological District, require permission through a permit from the state of Maryland. In the case of sanctuary resources that are covered under the Sunken Military Craft Act (SMCA; Pub. L. 108-375, Tit. XIV; 10 U.S.C. 113 note), NOAA and the DoN would cooperate on protecting those resources using the policy and procedures described in the 2015 Memorandum of Agreement (MOA). A copy of the MOA is available at: www.gc.noaa.gov/moa-2014-navy-signed.pdf.

b. Damaging Sanctuary Signs

NOAA prohibits damage to sanctuary signs, notices, placards, monuments, stakes, posts, buoys, or boundary markers. These materials are Federal property and part of the education and outreach programs in support of sanctuary management. This regulation prohibits damage from marking, defacing or altering these materials in any way.

c. Interfering With Investigations

NOAA prohibits interfering with sanctuary enforcement activities. This regulation will assist in NOAA's enforcement of the sanctuary regulations and strengthen sanctuary management.

d. Exemption for Emergencies and Law Enforcement

NOAA exempts from the three regulations activities that respond to emergencies that threaten lives, property or the environment, or are necessary for law enforcement purposes.

e. Department of Defense Activities

NOAA and DoD agree that all military activities will be carried out in a manner that avoids, to the maximum extent practicable, any adverse impacts on sanctuary resources and qualities. Based on information provided by DoD on its activities in the area, and analyzed by NOAA in its FEIS, the three prohibitions will not apply to existing military activities as described in the FEIS, or to the following activities:

- i) Low-level overflight of military aircraft operated by DoD;
- ii) The designation of new units of special use airspace;
- iii) The use or establishment of military flight training routes;
- iv) Air or ground access to existing or new electronic tracking communications sites associated with special use airspace or military flight training routes; or
- v) Activities to reduce or eliminate a threat to human life or property presented by unexploded ordnances or munitions.

New military activities that do not violate the three prohibitions are allowed in the sanctuary. Any new military activity that is likely to violate sanctuary prohibitions may become exempt from the prohibitions through consultation between the Director and DoD pursuant to section 304(d) of the NMSA. The term "new military activity" includes but is not limited to, any existing military activity that is modified in any way (including change in location, frequency,

duration, or technology used) that is likely to destroy, cause the loss of, or injure a sanctuary resource, or is likely to destroy, cause the loss of, or injure a sanctuary resource in a manner or to an extent that was not considered in a previous consultation under section 304(d) of the NMSA.

7. Emergency Regulations

As part of this designation, NOAA will have the authority to issue emergency regulations. Emergency regulations are used in limited cases and under specific conditions when there is an imminent risk to sanctuary resources and a temporary prohibition on a specific activity would prevent the destruction or loss of those resources. Under the NMSA, NOAA only issues emergency regulations for a maximum of six months, and can only extend any single emergency regulation once. A full rulemaking process must be undertaken, including a public comment period, to consider making an emergency regulation permanent. NOAA modifies the national regulations at section 922.44 to include MPNMS in the list of sanctuaries that have site-specific regulations related to emergency regulations, and adds detailed site-specific emergency regulations to the MPNMS regulations at section 922.204. DoD activities are not subject to emergency regulations.

8. General Permits, Certifications, Authorizations, and Special Use Permits

a. General Permits

NOAA has authority to issue permits to allow certain activities that would otherwise violate the prohibitions in MPNMS regulations. Similar to other national marine sanctuaries, NOAA considers these permits for the purposes of education, research, or management.

To include this permit authority for MPNMS, NOAA amends national regulations in part 922, subpart E, to add references to subpart S, as appropriate, and adds a new section 922.205 in subpart S titled “Permit procedures and review criteria” that would address site-specific permit procedures for MPNMS.

b. Certifications

NOAA adds language at section 922.206 describing the process by which NOAA may certify pre-existing authorizations or rights within MPNMS. Here, the term “pre-existing authorizations or rights” refers to any leases, permits, licenses, or rights of subsistence use or access in existence on the date of sanctuary designation (see 16 U.S.C. § 1434(c); 15 C.F.R. § 922.47). Consistent with this, MPNMS regulations at section 922.206 states that certification is the process by which these pre-existing authorizations or rights that violate sanctuary prohibitions may be allowed to continue, and the sanctuary may regulate the exercise of the pre-existing authorizations or rights consistent with the purposes for which the sanctuary was designated. Applications for certifying pre-existing authorizations or rights must be received by NOAA within 180 days of the Federal Register notice announcing of effective date of the designation.

c. Authorizations

With this designation, NOAA also assumes authority to allow an otherwise prohibited activity to occur in MPNMS, if such activity is specifically authorized by any valid Federal, state, or local lease, permit, license, approval, or other authorization issued after sanctuary designation. “Authorization authority” is intended to streamline regulatory requirements by reducing the need

for multiple permits and would apply to all prohibitions at section 922.203. As such, NOAA amends the regulatory text at section 922.49 to add reference to subpart S.

d. Special Use Permits

NOAA has the authority under the NMSA to issue special use permits (SUPs) at national marine sanctuaries as established by section 310 of the NMSA. SUPs can be used to authorize specific activities in a sanctuary if such authorization is necessary (1) to establish conditions of access to and use of any sanctuary resource; or (2) to promote public use and understanding of a sanctuary resource. The activities that qualify for a SUP are set forth in the Federal Register (78 FR 25957; May 3, 2013). Categories of SUPs may be changed or amended through public notice and comment. NOAA will not apply SUP authority to activities in existence at the time of MPNMS designation.

NOAA reviews SUP applications to ensure that a proposed activity is compatible with the purposes for which the sanctuary is designated and that the activities carried out under the SUP will be conducted in a manner that do not destroy, cause the loss of, or injure sanctuary resources. NOAA also requires SUP permittees to purchase and maintain comprehensive general liability insurance, or post an equivalent bond, against claims arising out of activities conducted under the permit. The NMSA allows NOAA to assess and collect fees for the conduct of any activity under a SUP. The fees collected could be used to recover the administrative costs of issuing the permit, the cost of implementing the permit, monitoring costs associated with the conduct of the activity, and the fair market value of the use of sanctuary resources.

9. Other Conforming Amendments

The general regulations in part 922, subpart A, and part 922, subpart E, for regulations of general applicability would also have to be amended so that the regulations are accurate and up-to-date. The following 10 sections are updated to reflect the increased number of sanctuaries or to add subpart S to the list of sanctuaries:

- Section 922.1 Applicability of regulations
- Section 922.40 Purpose
- Section 922.41 Boundaries
- Section 922.42 Allowed activities
- Section 922.43 Prohibited or otherwise regulated activities
- Section 922.44 Emergency regulations
- Section 922.47 Pre-existing authorizations or rights and certifications of pre-existing authorizations or rights
- Section 922.48 National Marine Sanctuary permits—application procedures and issuance criteria
- Section 922.49 Notification and review of applications for leases, licenses, permits, approvals, or other authorizations to conduct a prohibited activity
- Section 922.50 Appeals of administrative action

NOAA intends to make additional system-wide regulation updates when NOAA finalizes elements of a national review of regulations that was proposed on January 28, 2013 (78 FR 5998). Of relevance to MPNMS, the final rule for the national review of regulations would consolidate general permit regulations and permitting procedures from site-specific subparts into

the system-wide regulations. No substantive changes to MPNMS permit categories or permit requirements would be included as part of the national regulation review. NOAA will finalize elements of the national regulation review in a separate rulemaking action.

10. Terms of Designation

Section 304(a)(4) of the NMSA requires that the terms of designation include: the geographic area of the sanctuary; the characteristics of the area that give it conservation, recreational, ecological, historical, research, educational, or aesthetic value; and the types of activities that may be subject to regulation by the Secretary of Commerce to protect these characteristics. Section 304(a)(4) also specifies that the terms of designation may be modified only by the same procedures by which the original designation was made. NOAA is adding the terms of designation as Appendix B to the MPNMS regulations at 15 CFR part 922, subpart S.

IV. RESPONSE TO COMMENTS

When designating a national marine sanctuary, section 304 of the NMSA (16 U.S.C. 1434) requires the preparation of an environmental impact statement (EIS), as provided by the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) and that the EIS be made available to the public. In preparing the final EIS, the CEQ regulations further require that agencies respond to all “substantive” comments on a draft EIS (40 C.F.R. 1503.4).

The MPNMS DMP, DEIS and proposed sanctuary regulations were released for public review on January 9, 2017 (82 FR 2256). The public comment period ended on March 31, 2017. During this period, NOAA received over 1,450 comments, including written comments, oral comments, and group letters. Of those, 1120 comments were received through the eRulemaking Portal www.regulations.gov. NOAA also hosted two public hearings on March 7, 2017 in La Plata, MD, and March 9, 2017 in Arnold, MD. Over 170 people attended the meetings with 73 people providing oral public comment. Additionally, through the National Marine Sanctuary Foundation (NMSF), NOAA received two letters signed on behalf of multiple organizations; one was signed by 133 individuals in support of designation of NOAA’s preferred alternative and the second was signed by 128 organizations in support of designation for MPNMS and a separate action relating to the proposed designation of Wisconsin Shipwreck Coast National Marine Sanctuary.

The majority of comments expressed support for the proposed sanctuary, several expressed opposition, and a few did not take a position. Of those people who spoke at the public meetings, more than half expressed support, several were opposed, and a few expressed conditional support. In addition, of the nearly 1000 comments that specified a boundary alternative, relatively few favored Alternative A (i.e., no action/no sanctuary), while most favored Alternative B (18 square miles, which closely matches with the Mallows Bay-Widewater Historical and Archeological District on the National Register of Historic Places), Alternative C (52 square miles of the tidal Potomac River, which includes all of the known WWI-era historic vessel remains) or Alternative D (100 square miles of the tidal Potomac River which may contain other maritime cultural heritage assets and potentially expands recreational use opportunities). The majority of comments supported Alternative D for purposes of public access and protection for any potential additional maritime cultural assets. Supporters of this alternative also cited its increased protection of natural resources, although natural resource management is

not proposed or being implemented for this sanctuary. Several comments supported NOAA's draft preferred alternative (Alternative C) as did those who signed a letter of support through the NMSF. Of the comments that did not specify a boundary alternative, the majority supported a sanctuary designation. Through the NMSF, many organizations expressed support for MPNMS and the separate Wisconsin designation without reference to a specific alternative.

As a cooperating agency, the DoN provided NOAA with comments on behalf of four military installations adjacent to the proposed sanctuary boundary alternatives. DoN also submitted a public comment stating support for the proposed sanctuary designation and expressing a desire to work cooperatively with NOAA to ensure that the designation does not adversely impact area military operations.

Additional input on the proposal were provided to NOAA through consultation with Federal and state agencies as well as discussions with three state-recognized Tribes: Piscataway Conoy Confederacy and Sub-Tribes (MD), Piscataway Indian Nation (MD), and the Patowomeck Indian Tribe of Virginia (VA).

For the purposes of managing responses to public comments, NOAA grouped similar comments by theme. These themes align with the content of the proposed rule that identified the purposes and needs for a national marine sanctuary, and the draft management plan that identified the proposed non-regulatory programs and sanctuary operations. The themes are summarized below, followed by NOAA's response.

COMMENTS on the PURPOSES and NEED for the SANCTUARY

Purpose and Need 1: Resource Protection for Maritime and Cultural Heritage Assets

1. Comment: The majority of comments NOAA received expressed support for the sanctuary designation because it will have a positive impact on cultural resource protection of known and potential shipwreck sites through increased public awareness, education, interpretation and related programs.

Response: NOAA agrees with these comments and, in partnership with the State of Maryland and Charles County, MD, is moving forward with the sanctuary designation process which cites protection and interpretation of nationally-significant maritime cultural heritage resources as one of two purposes and needs for the sanctuary.

2. Comment: NOAA received many comments highlighting that the WWI - era ship remains and related maritime assets are an important component of United States history and maritime cultural heritage.

Response: NOAA agrees with these comments. These vessels were built at more than 40 shipyards throughout the coastal United States and helped to transform the United States shipbuilding capacity. In addition, the demand for workers, materials and industry services provided significant economic and social benefit to local economies and communities.

3. Comment: NOAA received some comments that as the Nation commemorates the Centennial of United States' entry into WWI, sanctuary designation would be a fitting tribute to those citizens who served our country during that period.

Response: NOAA agrees that the sanctuary could help to interpret the stories of sacrifice and commitment of those who served during WWI, including our war veterans, the expansion of the U.S. Merchant Marines, and communities associated with more than 40 shipyards in the construction of the Ghost Fleet vessels. NOAA will continue to participate alongside other local, state and federal programs and non-profit organizations throughout the WWI Centennial Commemoration period and beyond.

4. Comment: NOAA received several comments expressing opposition to the proposed designation because commenters expressed mistrust with the Federal Government, argued the proposed sanctuary is not needed, and felt designation would not be a good use of taxpayer money.

Response: Through the NMSA, NOAA as a Federal agency carries out its mission through transparent public processes and community-based programs that involve extensive and continuous public engagement and input. This holds true for nominating and potentially designating new sanctuaries. The concept for this proposed sanctuary originated with a nomination from the Governor of Maryland to NOAA. That nomination also included the request for joint management with the State of Maryland and Charles County, MD. The designation process has included public scoping and public comment periods as well as numerous meetings with community organizations. Post designation, NOAA and the joint managers of the sanctuary will continue their partnership and transparency with the community through sanctuary advisory councils, working groups, volunteer opportunities, and a diversity of partnerships.

The justification for the sanctuary is addressed in the final environmental impact statement. Specifically, Section 3.2 "Description of Alternatives" describes Alternative B in terms of the Malloys Bay-Widewater Historical Archeological District which codifies the national significance of the Ghost Fleet and related maritime assets and provides opportunity for Federal protection. Section 2.2 "Purpose and Need for Action" describes how the NMSA would complement and supplement existing Federal and State authorities to enhance resource protection for maritime assets and facilitate public access and recreation through regulatory and non-regulatory actions.

In the final management plan for this sanctuary, NOAA describes sanctuary activities that could be completed at several funding levels (see FMP Appendix 3). As a federal agency, NOAA's budget is passed by Congress and is signed into law by the President. NOAA's budget includes an annual allocation for the management of all national marine sanctuaries under the NMSA. NOAA makes funding decisions for each sanctuary based on the Congressional allocation to the Agency, Office of National Marine Sanctuaries priorities, and the particular needs of individual national marine sanctuaries. As a result, funding can vary from year to year, which may impact the level of activities completed in the management plan. NOAA also anticipates a varying level of in-kind contributions from joint managers from the State of Maryland and Charles County, MD, as well as other partners, will contribute to the overall sanctuary goals.

5. Comment: NOAA received a few comments that sanctuary designation is unnecessary because the historic resources are managed by the State of Maryland already and the area was recently added to the National Register of Historic Places (NRHP).

Response: NOAA disagrees that sanctuary designation is unnecessary. While the State of Maryland is the trustee and manager of the historic resources, there remain gaps in the State's authority to provide full protection, as defined in Section 2.4 of the FEIS. The listing of the Ghost Fleet on the National Register of Historic Places (NRHP) in 2015 deemed their value as nationally significant due to its historical, cultural or archaeological qualities and, therefore, eligible for additional Federal protection.

Section 2.4 of the FEIS defines the role of the NMSA to complement and supplement existing authorities. For example, the NHPA only applies to Federal undertakings and does not address actions taken by the public. As such, the NMSA would supplement existing state authorities by closing gaps related to the collection of historic artifacts, by strengthening the requirement for the public to report discovery of historic artifacts, by increasing enforcement capacity, and by increasing the penalty for violation of these prohibitions. Additionally, NOAA's non-regulatory programs (e.g., education, public outreach, citizen science) make significant contributions to the ongoing and long-term management of historic resources and are important tools to help raise public awareness and deter impacts to the historic and maritime cultural heritage resources of the area.

6. Comment: NOAA received some comments expressing support for the proposed sanctuary designation because the sanctuary would help protect and interpret important Civil War heritage resources.

Response: NOAA agrees with these comments. In addition to protecting and interpreting WWI-era assets, the waters of the Potomac River potentially include historic assets from other eras including the Civil War, which would also be protected. Additionally, the surrounding maritime landscape is associated with Civil War-era history, including the Underground Railroad. NOAA expects that sanctuary research, education, and outreach efforts has potential to expand the understanding, protection and interpretation of these histories and resources.

7. Comment: NOAA received several comments that the sanctuary would serve as an important and permanent memorial to those citizens who have served and sacrificed their lives to defend our country, from the Revolutionary War through modern times.

Response: NOAA agrees that an opportunity may potentially exist. As these assets cannot reside in museums or other land-based venues, the resting place of the WWI-era Ghost Fleet and maritime assets from other war eras within sanctuary waters offer a unique opportunity to commemorate commitment and service. For example, NOAA and its partners have initiated preliminary dialog with the Maryland Veterans Museum at Patriot Park about the potential for the sanctuary's water-based perspective to complement the experience of visitors to their venue. NOAA intends to continue to work with a variety organizations to promote and interpret histories and stories of personal commitment associated with the sanctuary.

8. Comment: NOAA received several comments that the shipwrecks are not nationally significant and that NOAA did not provide adequate justification for designation.

Response: NOAA disagrees with these comments. The WWI-era Ghost Fleet is a national asset that has been adequately documented and validated by nationally-recognized authorities. Specifically, in 2015, the Department of Interior placed a section (called a “district”) of the Potomac River containing the Ghost Fleet on the National Register of Historic Places. This district listing recognizes the area as “nationally-significant” and is consistent with the criteria described in the Federal Register notice for the Sanctuary Nomination Process to qualify the resources for consideration as a national marine sanctuary.

9. Comment: NOAA received some comments that the sanctuary should recognize and interpret the historical fisheries of the region as well as the generations of local watermen.

Response: NOAA agrees with these comments. While the WWI-era vessels and assets are the dominant maritime feature of the proposed sanctuary, NOAA recognizes that there are other significant cultural resources within and/or associated with the sanctuary (see Section 3.2 of FEIS p.52), including the history of fishing and the heritage of local watermen. The sanctuary will work with partners to conduct research and to provide education and outreach materials to help document and interpret these histories (see FMP Action Plan 5, Research, Science and Technology).

10. Comment: NOAA received a few comments that the sanctuary should include the history and heritage of the four DoD facilities that are within or nearby the proposed sanctuary alternatives.

Response: NOAA agrees with these comments. The DoD mission, facilities, and assets are critical to national security. DoD heritage is an integral part of the history and heritage of this region. The sanctuary management plan includes strategies to partner with these facilities to develop education, outreach and interpretative materials.

11. Comment: NOAA received several comments that the sanctuary should address Native American heritage.

Response: NOAA agrees with these comments. In 2014, the community who developed the original sanctuary nomination recognized Tribal culture as integral to the history and heritage of the Potomac River. The Piscataway Conoy Confederacy and Sub-Tribes (MD) served as a member of the nominating group and helped to guide the information content. There are two state-recognized tribes in Maryland (Piscataway Conoy Confederacy and Sub-Tribes and Piscataway Indian Nation) and one in Virginia (Patawomeck Indian Tribe of VA) who claim this area as their aboriginal territory. NOAA anticipates working alongside partners to expand understanding and interpretation of the heritage of all local Native American cultures.

12. Comment: NOAA received a few comments that the sanctuary will provide an important opportunity to document African American culture and heritage in the area, including possible Underground Railroad sites as well as the contributions of African Americans to local shipbuilding and fisheries industries.

Response: NOAA agrees with these comments. Limited information exists relative to the direct role of African Americans in shipbuilding and related services during WWI and their role in subsequent ship breaking operations. Thus, the management plan identifies significant opportunity to research, document and interpret this history.

13. Comment: NOAA received a few comments questioning why the sanctuary boundary extends beyond the boundary of Malloys Bay Park since most of the ships are clustered in that area.

Response: While many of the known WWI-era vessel remains reside in an area adjacent to Malloys Bay Park, other known vessel remains are located near Widewater, VA as well as other locations in the middle Potomac River. In addition, research indicates that other maritime and cultural assets from several time periods have yet to be discovered. As such, the proposed sanctuary boundary (Alternative B) encompasses these assets and is purposefully aligned with an area defined on the National Register of Historic Places. This entire area contains important cultural and maritime resources, including the remains of the WWI-era Ghost Fleet, vessels and assets associated with the three shipbreaking periods, vessels from other historical periods, and other cultural features. In response to public comments and consultations associated with the proposed sanctuary, NOAA, alongside partners from the State of Maryland and Charles County, MD chose to adopt Alternative B, a management area that would include these potential historic sites and facilitate resource management as potential new sites are discovered. This would ensure that newly discovered sites are protected and managed at the time of discovery.

14. Comment: NOAA received a few comments that the sanctuary as proposed provides a good balance through its focus on maritime cultural heritage resources while continuing to leave the management of natural resources under existing state and local authorities.

Response: NOAA agrees with this comment. For the purposes of this designation, sanctuary resource protection and management is exclusive to the maritime and cultural assets of the area. NOAA has developed a Memorandum of Agreement (MOA) with the State of Maryland and Charles County, MD that, in part, reiterates the authority and responsibility for natural resource management within the sanctuary remains with the State of Maryland and the Potomac River Fisheries Commission.

15. Comment: NOAA received many comments regarding the probable existence of maritime artifacts throughout Alternatives C and D as rationale for expanding the sanctuary boundaries.

Response: NOAA agrees that significant maritime assets exists outside of sanctuary boundaries. For example, the remains of two WWI-era vessels, the remains of the steamship Wawaset, and the remains of a Civil War-era vessel are known to reside in Alternative C. As such, NOAA based the Alternative C on the premise of including all of the known WWI-era vessels and other significant maritime assets in addition to those which research indicates have the potential to exist. Although NOAA is not aware of any documented vessels or maritime assets in Alternative D, NOAA agrees there is credible research to suggest they may exist and, therefore, the rationale for resource protection that was explored through Alternative D. NOAA believes there are substantial scientific and educational opportunities to explore and document additional assets and artifacts throughout the sanctuary and adjacent waters.

16. Comment: NOAA received one comment regarding NOAA’s inability to enact management strategies that protect the maritime resources from “sea level rise, marine debris, erosion and other impacts from the sea”.

Response: NOAA agrees that management strategies to protect maritime resources from forces of nature cannot be developed or implemented. These forces will continue to influence the condition of the maritime cultural heritage resources and the extent to which they are being reclaimed by nature. The sanctuary management plan proposes science and research activities that monitor and document changes to the maritime resources over time and, as practical, to better understand the potential impacts associated with these natural events.

NOAA also agrees that marine debris has potential to impact sanctuary resources. The management plan includes a number of non-regulatory strategies that raise public awareness and promote responsible use of the sanctuary resources as important methods for mitigating human impacts such as marine debris. Additionally, since 2014, NOAA and its partners have participated in an annual trash clean up at Mallows Bay Park hosted by the Alice Ferguson Foundation. Those events have attracted hundreds of community volunteers who have collected several tons of trash and marine debris in and around the historic and natural resources. Following designation, NOAA intends to expand partnerships with other programs in response to marine debris.

Purpose and Need 2: Public Access, Recreation and Heritage Tourism

17. Comment: NOAA received several comments that the Mallows Bay sanctuary nomination and designation processes have already increased public awareness of and visitation to the area, which has resulted in overcrowding at Mallows Bay Park and conflicts among users, and which threatens the protection of sanctuary resources.

Response: NOAA agrees that the designation process has increased awareness of Mallows Bay Park and adjacent maritime cultural heritage resources, but data are not available to interpret changes to visitation. As outlined in the proposed management plan, NOAA will work in cooperation with partners to understand visitor use, understand carrying capacity of the site and, if/as necessary, help mitigate overcrowding (see FMP Resource Protection Action Plan, Strategy RP-3) and reduce potential threats (see FMP Resource Protection Action Plan, Strategy RP-1 and RP-3) to sanctuary resources. For example, proposed activities related to visitor information, signage, marketing, public outreach and water trails are expected to help disperse or separate visitors.

18. Comment: NOAA received many comments that NOAA should work with partners to help facilitate additional public access, enhance capacity at existing access sites, and enhance visitor services.

Response: NOAA agrees with this comment. Facilitating public access and recreational opportunity is one of two purposes and needs identified for the sanctuary. NOAA will continue to work with partners in Maryland and Virginia to consider public use and demand and, as appropriate, to expand access and services that enhance visitor experiences.

19. Comment: NOAA received several comments that sanctuary designation is an opportunity to network recreational opportunities among multiple public parks and access points in MD and VA, and one comment providing specific recommendations for the types of amenities at these locations.

Response: NOAA agrees with this comment and recognizes the social and economic benefits associated with enhancing partnerships among these sites. Mallows Bay Park is one of several local, state and Federal parks in MD and VA along this stretch of the Potomac River. Additionally, these parks are adjacent to and provide public access to three national water trails in this portion of the river. The sanctuary management plan identifies activities to support recreational access, water trails and interpretation, as well as education and public outreach of the area on both sides of the Potomac River.

20. Comment: NOAA received a few comments that NOAA should protect the areas of importance but keep the river open and available to all.

Response: NOAA agrees with this comment. The purpose of the designation is to protect the nationally-significant maritime cultural heritage resources. In carrying out this purpose, NOAA has no plans to limit access to the Potomac River. Many of the action plans in the management plan encourage use of the river, including Resource Protection Strategy 3 (enhancing user access, developing trail maps, certification programs for local outfitters). Additionally, the Recreation and Tourism Action Plan (FMP Section 3) focuses on ways to increase sustainable use of the sanctuary and adjacent river, preparing and distributing outreach and education materials to visitors, and working with state and local governments to develop and/or enhance tourism infrastructure.

21. Comment: NOAA received one comment expressing concern about the safety of bicyclists on local roads and objections to using local taxes to fund the activities of visitors.

Response: Through the proposed designation, NOAA cannot manage or regulate local roads, vehicle traffic, or cyclist use of the roadways. Local land use planning, taxes and related infrastructure remain under the authority of County and State agencies. If or when changes to the use of local use of roadways is related to the sanctuary, any actions or amenities will be addressed by the County or State, as appropriate, and as a joint managers of the sanctuary.

22. Comment: NOAA received one comment expressing concern that NOAA would charge a fee for commercial and recreational uses of the Potomac River.

Response: Facilitating public access and recreational use of the Potomac River is one of the two purposes for establishing the sanctuary. The States and County may already charge fees for use of parks or recreational activities (i.e., fishing licenses), but those fees are not associated with nor are the fees imposed by the sanctuary. Generally, NOAA does not charge fees for public access to national marine sanctuaries. However, pursuant to Section 310 of the NMSA, NOAA may issue special use permits (SUPs) to establish conditions of access and use of sanctuary resources, or to promote public use and understanding of a sanctuary resources. Special use permits are generally issued for a narrow category of concessionary or commercial activities. Those activities are set forth

in the Federal Register (78 FR 25957; May 3, 2013 and 82 FR 42298; September 7, 2017), and include:

1. The placement and recovery of objects associated with public or private events on non-living substrate of the submerged lands of any national marine sanctuary.
2. The placement and recovery of objects related to commercial filming.
3. The continued presence of commercial submarine cables on or within the submerged lands of any national marine sanctuary.
4. The disposal of cremated human remains within or into any national marine sanctuary.
5. Recreational diving near the USS Monitor.
6. Fireworks displays.
7. The operation of aircraft below the minimum altitude in restricted zones of national marine sanctuaries.
8. The continued presence of a pipeline transporting seawater to or from a desalination facility.

The NMSA allows NOAA to assess and collect fees for activities conducted under an SUP. The fees are collected in order to recover the administrative costs of issuing the permit, the cost of implementing the permit, monitoring costs associated with the conduct of the activity, and the fair market value of the use of sanctuary resources. NOAA will not apply the SUP to activities in place at the time of the MPNMS designation.

23. Comment: NOAA received one comment expressing concern that fossil hunting would be restricted.

Response: NOAA does not propose to restrict casual collection of fossils along the shoreline. NOAA will continue to work with partners to develop public education and outreach materials that interpret the resources of the area, including fossils, to help encourage respect and stewardship of any artifacts which may have unique cultural significance. Some commercial methods of collection may require permitting under the NMSA and through other authorities, such as the U.S. Army Corps of Engineers, if the activity is expected to cause significant bottom disturbance or damage to the historic resources.

24. Comment: NOAA received one comment that there should be an emphasis on encouraging recreational activity in the area, specifically related to recreational boating, and that the sanctuary must provide recreational access for boaters.

Response: Facilitating public access and recreational use of the Potomac River is one of the two purposes for establishing the sanctuary. NOAA encourages a variety of responsible recreational uses within the sanctuary and will continue to work with partners to explore opportunities to enhance services important to all users, including recreational boating.

25. Comment: NOAA received one comment asking NOAA to confirm that Alternatives C and D would not impact construction/maintenance of marinas and piers along the Prince William

County, VA shoreline or the operation of passenger ferry service and transport of commercial goods to ports on the Potomac River.

Response: Because NOAA's preferred alternative does not include the Prince William County, VA shoreline, the facilities referenced in the comment are not included in the sanctuary boundaries and thus will not be impacted by sanctuary regulations. In the case of any future construction projects that may have the potential to indirectly impact the sanctuary, NOAA would consult with other Federal, state and local agencies in partnership to evaluate potential impacts. The sanctuary regulations do not prohibit or otherwise limit vessel traffic on the Potomac River, and thus NOAA does not expect that this action would impact the operation of passenger ferry service or other commercial uses of the river. NOAA is committed to ensuring that the creation of the sanctuary supports businesses and organizations that use the river and surrounding marinas, ports and other waterfront facilities and recognizes that commercial and recreational uses of the Potomac River are important activities that support the nation's economy.

Impact on Sovereignty and Rights

26. Comment: NOAA received several comments concerned that sanctuary designation will result in the loss of State control of the Potomac River, and is a takeover of both management, regulation and permitting of the area by the Federal government.

Response: NOAA disagrees with this comment. The NMSA recognizes the sovereignty of the State of Maryland. As stated in the NMSA (16 U.S.C. 1431(b)(2)), one of the purposes and policies of sanctuary designation is "to provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities." Similarly, section 1434 provides the Governor with authority to certify that the designation or terms thereof is unacceptable, and preclude the designation or terms thereof from taking effect in state waters.

NOAA, the State of Maryland, and Charles County, MD will enter into a Memorandum of Agreement (MOA) that specifies the terms of joint management of the sanctuary and reiterates that the State does not relinquish sovereignty or management control over any State-owned bottom lands and resources within the sanctuary boundaries. This document clearly lays out how sanctuary designation will supplement and complement, not replace, existing authorities. The draft MOA can be found in Appendix D of this FEIS.

27. Comment: NOAA received a few comments that the Potomac River Fisheries Commission (PRFC) has sole authority to manage fisheries within the mainstem tidal reach of the Potomac River and that sanctuary designation and any associated regulations will infringe on the PRFC authority.

Response: NOAA disagrees that the sanctuary will infringe on PRFC authority. NOAA narrowly defines sanctuary resources as "historical resources", which includes "any resource possessing historical, cultural, archaeological or paleontological significance, including sites, contextual information, structures, districts, and objects significantly associated with or representative of earlier people, cultures, maritime cultural heritage, and human activities and events." The definition does not including living resources, such

as fish, marine mammals or seabirds. Instead, the proposed regulations seek only to protect the maritime and cultural resources of Malloys Bay-Potomac River.

In Article IV, Section 2, of the Terms of Designation (found in Appendix B of 922, Subpart S), NOAA clarifies that “NOAA will not exercise its authority under the NMSA to regulate fishing in the Sanctuary.” NOAA has also added an exemption for traditional fishing in 922.203(a), and “Traditional fishing” is defined in 922.201 as “those commercial, recreational, and subsistence fishing activities that were customarily conducted within the Sanctuary prior to its designation or expansion, as identified in the relevant Final Environmental Impact Statement and Management Plan for this Sanctuary.”

Furthermore, in Section VII of the Draft MOA (found in Appendix D of this document), the parties have agreed to consider the potential impacts of sanctuary designation to commercial and recreational fishing activities during management plan review conducted under 304(e) of the NMSA. Specifically, within sixty days of the five- and ten-year anniversary date of the designation, the Governor of Maryland may submit findings demonstrating the manner and extent to which the designation of the sanctuary is having measurable negative impacts on the State's commercial and/or recreational fishing industry, and provide NOAA with an opportunity to address the concerns.

Additionally and pursuant to the NMSA, any future changes to the activities subject to regulation would require public notice, a rulemaking process, and concurrence from the State of Maryland. As such, the authority and responsibility for natural resource management, including commercial and recreational fishing, remain with PRFC and MD Department of Natural Resources (DNR). In March 2017, Attorney Generals from both Maryland and Virginia rendered opinions to PRFC and MD DNR which confirmed that the authorities of PRFC and DNR for natural resource management would not be impacted by sanctuary designation (See FEIS Appendix E).

28. Comment: NOAA received a few comments concerned that sanctuary designation will infringe upon the rights of local tribes.

Response: NOAA disagrees with this comment. Sanctuary designation and management will not infringe on Tribal rights. NOAA anticipates working alongside partners to expand understanding and interpretation of the heritage of all local Native American cultures. There are two state-recognized tribes in Maryland (Piscataway Conoy Confederacy and Sub-Tribes and Piscataway Indian Nation) and one in Virginia (Patawomeck Indian Tribe of VA) who claim this area as their aboriginal territory. Consistent with section 106 of the National Historic Preservation Act, NOAA invited the three state-recognized tribes to be consulting parties in the designation process. Interaction with local Tribes has been on-going.

In 2014, the community who developed the original sanctuary nomination recognized Tribal culture as integral to the history and heritage of the Potomac River. The Piscataway Conoy Confederacy and Sub-Tribes (MD) served as a member of the nominating group and helped to guide the information content. Since then, members of the Piscataway Conoy Confederacy and Sub-Tribes participated in local community

events related to Malloys Bay and, on March 7 and March 9, 2017, offered verbal comments related to the proposed sanctuary. One member questioned the historic value of the ships and expressed concern about increased taxes, while the Tribe's Chairman expressed support for the sanctuary and partnerships that share a common goal to protect the resources and ancestry of the Potomac River. On March 22, 2017, also as part of the public comment period, the Patowomeck Indian Tribe of VA submitted a written comment expressing concern for Tribal sovereignty and Federal involvement that could impact livelihoods.

On March 2, 2017, NOAA sent letters to two Maryland Tribes - the Piscataway Conoy Confederacy and Sub-Tribes and Piscataway Indian Nation. The Piscataway Conoy Confederacy and Sub-Tribes provided oral comments during the public meetings on March 7 and March 9 as described above. On November 3, 2017, NOAA sent follow up emails to these same Tribes inviting them to discuss the proposed sanctuary and any concerns related to the Tribes. NOAA did not receive a reply from either.

On October 16, 2017 and November 20, 2017, NOAA sent invitations for consultation to the Patowomeck Indian Tribe of VA. NOAA did not receive a response. On November 29, 2017, NOAA phoned Chief John Lightner. During that conversation, Chief Lightner offered no present-day concerns relative to the proposed sanctuary, despite the initial concerns expressed during the public comment period in March 2017. More so, Chief Lightner expressed interest in learning more about opportunities to engage directly with the sanctuary on topics related to interpreting the heritage of the Patowomeck Tribe of VA.

29. Comment: NOAA received one comment that the sanctuary would cause property owners along the shoreline to lose their properties.

Response: As described in Section 3.2 of the FEIS, sanctuary resources are specific to the maritime and cultural resources within Maryland waters. The sanctuary boundary does not include land area, nor does it include private property. Following sanctuary designation, authority for local land use planning remains with local jurisdictions (e.g., Charles County, Maryland and VA counties). NOAA has been and will continue to work closely with state, county, and local authorities to understand land-based actions with the potential to negatively impact sanctuary resources.

COMMENTS related to INDIRECT BENEFITS

30. Comment: NOAA received many comments that sanctuary designation will be important to protect existing populations and habitats for striped bass and sturgeon, and will improve water quality for recreational and commercial fishing.

Response: The authority and responsibility for natural resource management, including commercial and recreational fishing, remains with the State of Maryland and the Potomac River Fisheries Commission. The management of the sanctuary is focused on protections of maritime heritage resources. As such, to the extent that fish or other species rely on the maritime heritage resources as habitat, the sanctuary may have beneficial effects. The sanctuary management plan identifies opportunities for science and monitoring of

maritime heritage resources, including their relationship with the local ecosystem. NOAA's Office of National Marine Sanctuaries consulted with NOAA Fisheries pursuant to ESA section 7 for sturgeon and pursuant to the EFH provisions of the MSA for summer flounder and bluefish. In both consultations, NOAA found that sanctuary designation would not have an adverse effect.

31. Comment: NOAA received many comments that the sub-estuaries represented by Alternative D are part of a connected ecosystem. As such, a sanctuary that includes this area could have additional benefit for species, habitat and water quality

Response: NOAA's consideration of Alternative D was related directly to the protection and management of maritime cultural heritage resources and enhancing recreational access and interpretation related to these resources. As such, NOAA did not consider this area from the perspective of ecosystem connectivity. Following sanctuary designation, natural resource management will remain under the jurisdiction of other existing State and Federal authorities.

32. Comment: NOAA received many comments that the proposed national marine sanctuary is an important component of the Chesapeake Bay and related programs

Response: NOAA agrees with this comment. The Chesapeake Bay Program is a regional partnership that leads and directs Chesapeake Bay restoration and protection through partnerships with federal and state agencies, local governments, nonprofit organizations and academic institutions. NOAA is represented and actively engages in partnerships throughout the Chesapeake Bay and in the Potomac River. The sanctuary presents additional opportunities to expand local and regional partnerships for public engagement, education, science and outdoor experiences.

33. Comment: NOAA received several comments that the proposed national marine sanctuary is an important component of the Potomac River and the Chesapeake Bay.

Response: NOAA agrees with this comment. The Potomac River, which is part of the Chesapeake Bay watershed, is an important natural resource in the region. The cultural resources within the sanctuary are an important watershed component that reflects the human history of the region. Through the sanctuary management plan, NOAA intends to further explore and interpret the cultural and historic aspects of the greater Potomac River watershed and its relationship to the greater Chesapeake region.

34. Comment: NOAA received one comment stating that "Marine sanctuaries have been demonstrated to have huge net-positive benefits for economic growth. I think designation of Mallovs Bay as a marine sanctuary would be a critical advancement for the region. I think this is so important to the long-term future of this region, that if I were asked, I would support market-based compensation for individuals that are financially harmed by the designation. This would be an important step in the restoration and strengthening of our bay."

Response: NOAA agrees that national marine sanctuaries have potential to provide net positive economic benefit to communities, as described in the FEIS, Sections 5.3.2 and 5.3.4. Increased awareness of the area and its maritime resources has potential to increase

heritage and recreational tourism and drive demand for enhancing visitor services. NOAA's evaluation does not include consideration of market-based compensation.

Concern for Future Expansion of NOAA Authorities

35. Comment: NOAA received a few comments expressing concern that in 5 years when NOAA is required to revise the management plan, NOAA will change the rules, expand the boundaries, and put in stricter regulations.

Response: Section 304(e) of the NMSA requires NOAA to evaluate a national marine sanctuary's management plan every five years. However, NOAA is not required to revise the management plan and/or the regulations during the management plan review process. Should any changes to the sanctuary's management approach be required, they would be made only after the agency has engaged in a robust public process.

Additionally, any proposed changes to a national marine sanctuary boundary and its regulations are further subject to section 304(a)(4) of the NMSA, which identifies the sanctuary's "terms of designation" (i.e., its geographic boundaries, the characteristics that make it significant, and the broad types of activities that could be subject to regulation). These terms of designation may be modified only by the same procedures used for the original designation, meaning they must include public notice requirements. This provision also allows the Governor of any respective state within the sanctuary's boundaries to review any changes to the terms of designation, and to make a determination as to whether they are acceptable. Any term of designation the Governor determines as unacceptable shall not take effect in the state waters of the sanctuary. In the case when a regulatory change does not require changes to a sanctuary's terms of designation, NOAA would have to follow the procedures of the Administrative Procedure Act (5 U.S.C. 553), which requires adequate public notice and opportunity for public comment on any proposed new regulations. The State of Maryland and Charles County, as the sanctuary joint-managers, would be involved in all considerations regarding any proposed changes to the sanctuary's terms of designation and regulations.

36. Comment: NOAA received a few comments expressing concern that, because NOAA has the authority to regulate fishing, once the sanctuary is designated NOAA is likely to begin regulating fishing within this sanctuary.

Response: NOAA's purpose in designating this national marine sanctuary is to protect maritime cultural heritage assets located in the Potomac River. While NOAA Office of National Marine Sanctuaries has authority to regulate fishing activities pursuant to the NMSA, NOAA has not exercised that authority for this sanctuary. The sanctuary regulations for MPNMS only apply to historical resources. Additionally, the terms of designation for MPNMS do not identify fishing as one of the activities subject to regulations. Moreover, since the waters of the sanctuary are located entirely within the jurisdiction of the State of Maryland, the PRFC (which includes commissioners from Maryland and Virginia) and the State of Maryland will retain the sole authority to publish and enforce rules, regulations and laws dealing with all fishing matters in the area. In the Article IV, Section 2 of the Terms of Designation (found in Appendix B of 922, Subpart

S, NOAA clarifies that “NOAA will not exercise its authority under the NMSA to regulate fishing in the Sanctuary.”

37. Comment: NOAA received a few comments that designation could impact hunting and the permitting process. In addition, there is no mention of hunting as a recreation activity; current hunting regulations, licenses, and permitting should remain as is.

Response: NOAA’s purpose in designating this national marine sanctuary is to protect maritime cultural heritage assets located in the Potomac River. The FEIS has been updated to include data on hunting activities in the area. NOAA’s analysis of the resources has not found any threats from or impacts to these resources from hunting. Thus, the terms of designation does not identify hunting as one of the activities subject to regulation, so NOAA cannot impose restrictions on hunting unless new terms of designation are issued. All licensing and permitting for hunting will remain under the jurisdiction of the Maryland DNR.

COMMENTS related to the DRAFT MANAGEMENT PLAN

38. Comment: NOAA received many comments that the sanctuary would enhance student education (K-12 and higher education), particularly through increased opportunity for field-based programs.

Response: NOAA agrees with this comment. The sanctuary offers students a unique experience in multi-disciplinary education. This area has recently become a magnet for educational field experiences at all levels, including several graduate studies from outside the local area. Additionally, through funding from NOAA, stewardship activities and outdoor educational opportunities have been expanded at two schools in Charles County MD. The sanctuary will enable additional educational opportunities and partnerships, including those aimed at understanding and appreciation of both ecological characteristics and historic archaeological resources within the area. The site’s proximity to Washington, DC and several colleges and universities adds to the opportunities for learning and research at the highest level, often in conjunction with state and federal agencies, and private educational institutions.

39. Comment: NOAA received comments that the sanctuary will be an important location for research, science and monitoring of historical resources as well as their interaction with the natural environment.

Response: NOAA agrees with this comment. The sanctuary is an excellent site to act as a living laboratory to understand changes to natural conditions, shipwrecks, and the interaction between them. Many opportunities for scientific, archaeological and environmental research exist through partnerships with non-profit maritime organizations, and universities and colleges with maritime archaeology programs being invited to work with NOAA and the State to undertake research and to encourage students to seek thesis and dissertation topics at Mallows Bay. The College of Southern Maryland in particular has expressed interest in integrating various components of its current and planned curriculum, such as studies in robotics and remote sensing technology, to partner with the archaeological research of submerged sites in the transect.

40. Comment: NOAA received many comments requesting that NOAA should consider a visitor center to support public awareness, education, and interpretation. In addition, the comments suggest NOAA should consider the location of the visitor center to support tourism and possibly to enhance the local economy through visitation.

Response: NOAA agrees that connecting to the public through educational and interpretive programs, exhibits and interactive experiences, including visitor centers, is an important component of all national marine sanctuaries. Following sanctuary designation, NOAA will work with state and local partners to evaluate the types and locations of educational and interpretive programs and/or infrastructure (e.g., signs and exhibits) needed to support sanctuary management. Visitation and potential economic benefit are among numerous other considerations regarding the potential for a visitor center. If a visitor center is determined to be appropriate and feasible, NOAA will work in partnership the county, state and/or other local authorities with jurisdiction for land use planning and funding options.

41. Comment: NOAA received some comments that sanctuary designation would increase tourism, which would benefit the local economy. Sanctuary designation would help to create or support jobs and small business opportunities especially those associated with visitor services.

Response: NOAA agrees with the potential to increase public interest and visitation to the area as described in the FEIS, Sections 5.3.2 and 5.3.4. No recent economic studies exist to document visitation, although its need is identified in the sanctuary management plan. Charles County initiated a method to track visitation to Malloys Bay Park in Spring 2017, however, public access also originates from other nearby sites. As such, the potential for visitation and demand for services is not known. Should it occur, this demand may aid the local economies of the surrounding area particularly for small businesses that cater to nature-based tourism, heritage tourism, recreational fishing, wildlife viewing, kayaking and boating.

42. Comment: NOAA received several comments that sanctuary designation will have negative economic impacts to local watermen.

Response: NOAA disagrees with this comment. The principal purpose of the sanctuary is to protect, study, interpret and manage the extensive archaeological and historical resources of the area. Because the authorities for managing fishery resources will remain with the PRFC and MD DNR, sanctuary designation will not regulate, alter or negatively impact commercial or recreational fishing.

43. Comment: NOAA received a few comments concerned that placing any new restrictions on the Potomac River will adversely impact the ability of DoD to carry out critical mission training and operations. In addition, MPNMS tourism will result in increased boat traffic on the river, which would interfere with military training and operations.

Response: NOAA disagrees with this comment. In September 2016, the Department of Navy (DoN) signed on as a cooperating agency to participate in the development of the sanctuary designation documents, including the sanctuary regulations, management plan, and environmental impact statement. DoN coordinated interactions and information exchange between NOAA, Marine Corps Base Quantico, Naval Support Facility Indian Head, Naval Support Facility Dahlgren, and Blossom Point Research Facility

(collectively referred to as Department of Defense (DoD)). NOAA, in consultation with the DoN, has established a framework for MPNMS and DoD to co-exist. In developing the proposed rule, NOAA did not anticipate that many, if any, current DoD activities would adversely impact sanctuary resources. However, following interagency consultation with DoD components (including DoN, the Marine Corps, and the U.S. Army), NOAA revised section 922.203(c), 922.204, and the terms of designation set forth in Appendix B to the MPNMS regulations at 15 CFR part 922, subpart S. In the final regulations, NOAA: a) clarifies the extent to which the sanctuary prohibitions may apply to DoD activities; b) clarifies the requirement for DoD to engage in NMSA section 304(d) consultation; and c) exempts DoD from the application of emergency regulations issued by NOAA pursuant to section 922.204. Additionally, the discussions with DoD identified benefits that would be provided to DoD through sanctuary education, public outreach, interpretation and management.

44. Comment: NOAA received a few comments concerned that sanctuary designation will have negative impacts to local businesses and will restrict local development opportunities.

Response: As is the case at other national marine sanctuaries around the country, NOAA believes that the sanctuary will have a positive impact on local businesses and the economies of the surrounding area. No recent economic studies exist to document visitation, although its need is identified in the sanctuary management plan. Charles County initiated a method to track visitation to Mallows Bay Park in Spring 2017, however, public access also originates from other nearby sites. As such, the potential for visitation and demand for services is not known. Should it occur, this demand may aid the local economies of the surrounding area particularly for small businesses that cater to nature-based tourism, heritage tourism, recreational fishing, wildlife viewing, kayaking and boating.

45. Comment: NOAA received a few comments that water quality conditions in the Potomac River may pose a risk to public health.

Response: NOAA does not define water quality as a sanctuary resource and, as such, will not manage water quality conditions nor contributing factors. However, NOAA is interested in water quality as it may impact the wrecks. Therefore, NOAA may monitor water quality through deployment of monitoring buoys or other methods, and may participate in relevant community activities such as trash clean-ups.

46. Comment: NOAA received one comment concerned that special conservation areas that are identified on aeronautical charts would restrict aviation primarily through altitude restrictions and landing requirements

Response: NOAA's purpose in designating this national marine sanctuary is to protect maritime cultural heritage assets located in the Potomac River. NOAA's analysis of the resources has not found any threats from or impacts to these resources from aircraft. Thus, air space/altitude of aircraft is not identified in the terms of designation as an activity that is subject to regulation. NOAA is precluded from regulating airspace unless change in the terms of designation is issued.

47. Comment: NOAA received one comment expressing concern that NOAA would have insufficient capacity for day-to-day enforcement of the sanctuary.

Response: Upon designation, NOAA will continue to work with agency co-managers and partners to evaluate the need for enforcement specific to the maritime and cultural assets defined as sanctuary resources. Enforcement of natural resources and other activities that are not related to sanctuary resources will remain with the existing authorities. NOAA often employs “interpretative” enforcement, through education, public outreach, docents and similar non-regulatory means, to help inform users and encourage stewardship of the resources.

48. Comment: NOAA received a few comments related to the cost of designating a national marine sanctuary, including a question related to the source of funding for the sanctuary, a concern that Federal funds are insufficient for sanctuary enforcement and another asking about funding sources for a visitor center.

Response: As a federal agency, NOAA’s budget is passed by Congress and signed into law by the President. NOAA’s budget includes an annual allocation for the management of all national marine sanctuaries. The NMSA directs NOAA to protect these nationally significant ecological and historic resources. NOAA makes funding decisions for each sanctuary based on the annual funding level, program priorities, and site needs. As a result, site funding can vary from year to year which may impact the level of activities completed in the management plan each year. As part of the management plan for this sanctuary, NOAA includes a table that described the sanctuary activities that could be completed at several funding levels. NOAA also anticipates a varying level of in-kind contributions from co-managers and partners to help support sanctuary goals.

49. Comment: NOAA received one comment from a non-governmental organization requesting opportunity to review the Memorandum of Agreement (MOA) for joint management of the sanctuary between NOAA, the State of Maryland and Charles County MD.

Response: NOAA, the State of Maryland, and Charles County, MD have agreed to enter into a formal agreement, referred to as a MOA. This agreement establishes the framework for joint management and operation of Malloes Bay-Potomac River National Marine Sanctuary, and will be based on language contained in the draft MOA available in Appendix D of the FEIS/FMP.

50. Comment: NOAA received a few comments from organizations requesting to have seats on the sanctuary advisory council (SAC).

Response: NOAA appreciates the interest from members of the public who want to participate with the SAC. Following designation and pursuant to NMSA section 315, NOAA will establish and manage a SAC to advise and make recommendations regarding the management of the sanctuary. The SAC may be comprised of up to fifteen (15) members and, per NMSA section 315, may include: a) persons employed by Federal and/or state agencies with expertise in management of sanctuary resources and b) representatives of local user groups (such local user groups may include, but are not limited to, local fishing interests), conservation and other public interest organizations, scientific organizations, educational organizations, or others interested in the protection and multiple use and management of sanctuary resources. In its establishment, NOAA

will strive to achieve a balanced advisory council composition that best represents the primary sanctuary users and interests. In determining the composition of the advisory council, NOAA may consult with the State of Maryland and/or Charles County.

COMMENT on the PROPOSED REGULATIONS

51. Comment: NOAA received one comment expressing concern about giving the Sanctuary Superintendent the power to issue emergency regulations.

Response: As part of the designation, NOAA will have the authority to issue emergency regulations. As described in the proposed rule (82 FR 2254) and in this final rule, emergency regulations are used in limited cases and under specific conditions when there is an imminent risk to sanctuary resources and a temporary prohibition would prevent the destruction or loss of those resources. Under the regulations at 15 C.F.R. 922.204, NOAA only issues emergency regulations that address an imminent risk for a fixed amount of time with a maximum of 6 months that can only be extended a single time. The emergency regulation also cannot take effect without the approval of the Governor of Maryland, or his/her designee. Moreover, a full rulemaking process must be undertaken, including a public comment period, to consider making an emergency regulation permanent.

COMMENTS on the NEPA PROCESS

52. Comment: NOAA received two comments requesting NOAA to extend the public comment period beyond March 31, 2017.

Response: NOAA considered these comments during the comment period and declined to extend the comment period. NOAA fully complied with the requirements of the NMSA (16 U.S.C. 1434(a)(1)) and Administrative Procedures Act (5 U.S.C. 553) to provide adequate opportunity for public comment. From January 9 to March 31, 2017, NOAA held an 81-day public comment period, which exceeds the 30-day comment period requirement under APA, to allow the public time to review the proposal and provide comments. NOAA also hosted two public meetings to discuss the proposal and gather comments. In addition to posting a Federal Register notice, NOAA broadcasted the proposed action through extensive national and local media and social media outlets and targeted communications to Congressional members and staff as well as stakeholders including local/regional conservation NGOs, local tourism agencies and other business interests, local/regional elected officials, university and academic researchers, recreational divers, commercial and recreational fishing interests, and federal/state/local partners.

53. Comment: NOAA received one comment requesting that NOAA coordinate actions under the Endangered Species Act related to the Atlantic sturgeon critical habitat prior to sanctuary designation.

Response: In compliance with requirements under NEPA and the Endangered Species Act (ESA; Section 7(c)), ONMS requested consultation with NOAA's National Marine Fisheries Service (NMFS) to assess whether sanctuary designation might have impacts to

Atlantic sturgeon. NMFS determined that due to the lack of identifiable stressors, sanctuary designation would have no effect on any ESA-listed species or critical habitat; see section 6.1.1 of the FEIS for discussion.

54. Comment: NOAA received a few comments that NOAA needs to conduct additional consultations.

Response: NOAA conducted all required consultations during the preparation of the FEIS. Chapter 6 of the FEIS describes the required Federal, state, and other consultations with state-recognized tribes that NOAA undertook under the requirements of the NMSA, National Historic Preservation Act, Endangered Species Act, Magnuson-Stevens Fishery Management and Conservation Act, Coastal Zone Management Act, and relevant Executive Orders, and the results of those actions.

V. Classification

National Marine Sanctuaries Act

NOAA has determined that the designation of the Mallows Bay-Potomac River National Marine Sanctuary will not have a negative impact on the National Marine Sanctuary System and that sufficient resources exist to effectively implement sanctuary management plans. NOAA also determined that the requirement to complete site characterizations has been met. The final findings for NMSA section 304(f) are published on the ONMS web page for the Mallows Bay-Potomac River designation at <http://sanctuaries.noaa.gov/mallows-potomac/>.

National Environmental Policy Act

NOAA has prepared a final environmental impact statement to evaluate the environmental effects of the rulemaking and alternatives as required by NEPA (42 U.S.C. 4321 et seq.) and the NMSA. The Notice of Availability (**insert reference after publication of FEIS**) is available at **[insert url after publication of FEIS]**. NOAA has also prepared a Record of Decision (ROD). Copies of the ROD and FEIS are available at the address and website listed in the ADDRESSES section of this rule.

Coastal Zone Management Act

Section 307 of the Coastal Zone Management Act (CZMA; 16 U.S.C. 1456) requires federal agencies to consult with a state's coastal program on potential federal regulations having an effect on state waters. Because MPNMS encompasses a portion of the Maryland state waters and is adjacent to the Commonwealth of Virginia lands and waters, NOAA provided a copy of the proposed rule and supporting documents to the Maryland Department of the Environment, (MDE) Coastal Zone Management (CZM) Program and Virginia Coastal Zone Management Program within the Department of Environmental Quality (DEQ) for evaluation of Federal consistency under the CZMA. On April 19, 2018, the MDE concurred with NOAA's consistency determination that the proposed action was consistent with the enforceable policies of the Maryland CZM program. That same day, DEQ sent a separate concurrence letter to NOAA concluding that the project is consistent to the maximum extent practicable with the enforceable policies of the Virginia CZM program, provided that all applicable permits and approvals are obtained, and the project is operated in accordance with all applicable federal, state, and local laws and regulations. No federal or state permits are required for sanctuary designation, and

NOAA has consulted and obtained all other required approvals. MPNMS will be operated in accordance with applicable laws and regulations.

Executive Order 12866: Regulatory Impact

This rule has been determined to be not significant for purposes of Executive Order 12866.

Executive Order 13132: Federalism Assessment

NOAA has concluded that this regulatory action does not have federalism implications sufficient to warrant preparation of a federalism assessment under Executive Order 13132. These sanctuary regulations are intended only to supplement and complement existing state and local laws under the NMSA.

Executive Order 13795: Implementing an America-First Offshore Energy Strategy

On April 28, 2017, Executive Order 13795 - Implementing an America-First Offshore Energy Strategy was signed by the President. Section 4(a) of E.O. 13795 requires the Secretary of Commerce (acting through NOAA) to receive from the Department of the Interior (DOI) a full accounting of the energy or mineral resource potential of any area proposed for sanctuary designation or expansion, including information on the potential impact the proposed designation or expansion will have on the development of those resources.

On December 22, 2016, NOAA sent DOI a letter providing notice of the NOAA's proposal to designate two new national marine sanctuaries in Wisconsin and Maryland pursuant to the NMSA (16 U.S.C. §§ 1431 et seq.). Although NOAA believed that neither of these proposed sanctuaries were within DOI's leasing authorities pursuant to the Outer Continental Shelf Lands Act, NOAA requested in a subsequent letter on April 11, 2018 that DOI evaluate these designations pursuant to E.O. 13795 (4)(b). On May 7, 2018, DOI responded to NOAA's letter confirming that lands underlying the proposed sanctuary are state lands and thus are not managed by DOI and that DOI has no plans for energy or mineral resource development in the area.

National Historic Preservation Act

The National Historic Preservation Act (NHPA; 16 U.S.C. 470 et seq.) is intended to preserve historical and archaeological sites in the United States of America. The act created the National Register of Historic Places, the list of National Historic Landmarks, and State Historic Preservation Offices. Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP (36 CFR part 800 et seq.). In fulfilling its responsibilities under the NHPA, NOAA consulted with the Maryland State Historic Preservation Officer (SHPO), and completed the identification of historic properties and the assessment of the effects of the undertaking on such properties in scheduled consultations with those identified parties and the SHPO. Pursuant to 36 CFR 800.16(1)(1), historic properties includes: "any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. The term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National

Register criteria.” NOAA does not believe this action will cause any adverse impacts to historic or cultural resources as a result of any of the alternatives presented in this FEIS. In March 2017, ONMS sent a letter to the SHPO requesting concurrence on that finding. In a June 19, 2017 letter to ONMS, the SHPO concurred that sanctuary designation would have no adverse effect on historic properties.

NOAA invited state recognized tribes to be consulting parties under Section 106 of the NHPA (54 U.S.C. 306108), pursuant to 36 C.F.R. Section 800.2. On January 3, 2017, NOAA sent a letter to the Piscataway Conoy Confederacy and Sub-Tribes and the Piscataway Indian Nation, both located in Maryland, inviting them to consult on the proposed designation. NOAA contacted each of the tribes again on March 2, 2017 and on November 3, 2017. Although NOAA received no written response to these communications, members of the Piscataway Conoy Confederacy and Sub-Tribes participated in local community events related to the proposed sanctuary and on March 7 and March 9, 2017, offered verbal comments related to the proposed sanctuary. On March 22, 2017, the secretary of the Patowomeck Tribe of Virginia submitted written comments on the proposed designation. On October 16, and November 20, 2017, ONMS contacted the Patowomeck Tribe of Virginia and invited them to discuss their relationship to the proposed sanctuary. During a phone conversation on November 29, 2017, Chief John Lightner offered no present-day concerns relative to the proposed sanctuary and expressed interests in learning more about opportunities to engage directly with the sanctuary on topics related to interpreting the heritage of the Patowomeck Tribe of Virginia. ONMS contacted Chief Lightner again via email and phone on March 9, 2018, via email on April 17, 2018, and via phone on April 23, 2018 soliciting additional written comments. However, NOAA received no additional written response to these communications. ONMS looks forward to working with the Piscataway Conoy Confederacy and Sub-Tribes, the Piscataway Indian Nation, and the Patowomeck Tribe of Virginia.

Regulatory Flexibility Act

This analysis seeks to fulfill the requirements of Executive Order 12866 and the Regulatory Flexibility Act. Small businesses that could potentially be impacted from the prohibition on damaging a sanctuary resource include commercial fishing, recreational fishing and diving, scenic and sightseeing industries. The Small Business Administration has established thresholds on the designation of businesses as “small entities.” For example, a finfish fishing business is considered a small business if it has annual receipts of less than \$20.5 million. Likewise, Scenic and Sightseeing and Recreational industries are considered small businesses if they have annual receipts not in excess of \$7.5 million. According to these limits, each of the businesses potentially affected by the rule would most likely be small businesses. However, as further discussed below, these regulations will not have a significant economic impact on the affected small entities, and the Chief Counsel for Regulations for the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration that this rule will not have significant economic impact on a substantial number of small entities. Thus, NOAA is not required to and has not prepared an initial regulatory flexibility analysis.

Methodology. This analysis is based on limited quantitative information on how much each activity occurs within the proposed sanctuary. Consequently, the result is more qualitative than quantitative.

Scales Used for Assessing Impacts. For assessing levels of impacts within an alternative, NOAA used three levels of impact; “negligible”, “moderate” and “high” plus “no impacts”. For levels of impacts within the proposed alternatives being analyzed, negligible means very low benefits, costs, or net benefits (less than 1% change). Moderate impacts would be more than 1% but less than or equal to 10%, and high impacts would be more than 10%. For market economic values (revenue, costs, and profits), negligible would mean no likely impact whereas moderate and high could mean some measurable impact on market economic values at the levels noted above. NOAA analyzed the national marine sanctuary described above.

Small business user groups include commercial fishing operation, recreation-tourism related businesses, and land use and development businesses. Other user groups not included here are research and education organizations, people who receive passive economic use value from stabilization or improvement to the proposed sanctuary resources and the U.S. Navy, none of whom are small businesses.

NOAA assessed three types of regulations included in the proposed action; (1) moving, removing, recovering, altering, inuring, etc., (2) marking, defacing or damaging etc., and (3) interfering with obstructing, etc. (see section 922.203 for full details).

Proposed Action.

Moving, Removing, etc. Regulation. Under the proposed rule, NOAA would not permit moving, removing, recovering, altering, injuring, destroying, possessing or attempting to move, remove, recover, alter, injure, destroy or possess a sanctuary resource (except where removed or possessed prior to sanctuary designation, and except as an incidental result of traditional fishing). Small businesses that could potentially be impacted include commercial fishing, recreational for-hire fishing operations, dive operations and other water recreation based operators.

The expected impact to all these business in the preferred alternative is “no impact.” Commercial and recreational for-hire fishing operations will not be impacted by the designation of the sanctuary. Fishing activities are currently and will continue to be under the jurisdiction of PRFC and the State of Maryland. The sanctuary also believes that sanctuary mapping, education and outreach programs would be beneficial to fishing communities and the state resource management agencies. Additional surveys, maps, and characterizations better identify locations of sanctuary resources help mitigate inadvertent damage to the historic resources, while at the same time, mitigate potential damage or loss of fishing equipment as well as time and financial losses to repair or replace fishing equipment. Divers will still be able to use the resource, but not able to take sanctuary resources, therefore the impact for this user group is also “no impact.”

Marking, defacing or damaging, etc. Regulation. Using the best information, there are no known businesses that rely on damaging or defacing sanctuary resources and no known businesses whose actions damage or deface sanctuary resources. Therefore, this prohibition is expected to have “no impact” on small businesses.

Interfering with, obstructing, delaying or preventing an investigation Regulation. This prohibition is also expected to have “no impact” on small businesses. There is no evidence that any small businesses in the area would be impacted by this prohibition.

All Regulations. NOAA expects the combined effects of all the regulations to have “no impact” on small businesses. However, it is possible that some small business may be able to leverage a sanctuary designation to increase awareness and interest in recreational opportunities within the sanctuary and sanctuary community. This could potentially improve the potential for business growth within the area, in which case, recreational operators could potentially see a positive “moderate” improvement. Additionally, these regulations will have no impact on personal property rights, land use and planning.

Paperwork Reduction Act

ONMS has a valid Office of Management and Budget (OMB) control number (0648-0141) for the collection of public information related to the processing of ONMS permits across the National Marine Sanctuary System. NOAA's designation of MPNMS would likely result in an increase in the number of requests for ONMS general permits, special use permits, certifications, and authorizations because this action proposes to add general permits and special use permits, certifications, appeals, and the authority to authorize other valid federal, state, or local leases, permits, licenses, approvals, or other authorizations. An increase in the number of ONMS permit requests would require a change to the reporting burden certified for OMB control number 0648-0141.

Nationwide, NOAA issues approximately 555 national marine sanctuary permits each year. MPNMS is expected to issue an additional 4 to 5 permit requests per year. This is between 0.7% and 0.9% increase in number of permits annually. NOAA estimates there are on average three responses per permit each, averaging a public reporting burden for national marine sanctuaries permits of 1.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. NOAA renewed the existing OMB control number for ONMS permits in July 2018 (through 2021). Therefore, we estimate that the minimal amount of additional permits falls within the total estimated for the 2018 renewal. The form and application process for Mallows Bay permits would be identical to the one approved in 2018.

Comments on this determination were solicited in the proposed rule but no public comments were received. Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB control number.

List of Subjects in 15 CFR Part 922

Administrative practice and procedure, Coastal zone, Historic preservation, Intergovernmental relations, Marine resources, Natural resources, Penalties, Recreation and recreation areas, Reporting and recordkeeping requirements, Wildlife.

Dated: **xx xx xxxx.**

Nicole LeBoeuf,
Acting Assistant Administrator for Ocean Services and Coastal Zone Management.

Accordingly, for the reasons discussed in the preamble, the National Oceanic and Atmospheric Administration proposes to amend 15 CFR part 922 as follows:

PART 922—NATIONAL MARINE SANCTUARY PROGRAM REGULATIONS

1. The authority citation for 15 CFR part 922 continues to read as follows:

Authority: 16 U.S.C. 1431 et seq.

2. Revise § 922.1 to read as follows:

§ 922.1 Applicability of regulations.

Unless noted otherwise, the regulations in subparts A, D, and E of this part apply to all National Marine Sanctuaries and related site-specific regulations set forth in this part. Subparts B and C of this part apply to the sanctuary nomination process and to the designation of future Sanctuaries.

3. Amend § 922.3 by revising the definition of “Sanctuary resource” to read as follows:

§ 922.3 Definitions.

* * * * *

Sanctuary resource means any living or non-living resource of a National Marine Sanctuary that contributes to the conservation, recreational, ecological, historical, research, educational, or aesthetic value of the Sanctuary, including, but not limited to, the substratum of the area of the Sanctuary, other submerged features and the surrounding seabed, carbonate rock, corals and other bottom formations, coralline algae and other marine plants and algae, marine invertebrates, brine-seep biota, phytoplankton, zooplankton, fish, seabirds, sea turtles and other marine reptiles, marine mammals and historical resources. For Thunder Bay National Marine Sanctuary and Underwater Preserve, Sanctuary resource means an underwater cultural resource as defined at § 922.191. For Malloes Bay-Potomac River National Marine Sanctuary, Sanctuary resource is defined at § 922.201(a).

* * * * *

4. Revise § 922.40 to read as follows:

§ 922.40 Purpose.

The purpose of the regulations in this subpart and in the site-specific subparts is to implement the designations of the National Marine Sanctuaries by regulating activities affecting them, consistent with their respective terms of designation in order to protect, preserve and manage and thereby ensure the health, integrity and continued availability of the conservation, ecological, recreational, research, educational, historical and aesthetic resources and qualities of these areas. Additional purposes of the regulations implementing the designation of the Florida Keys and Hawaiian Islands Humpback Whale National Marine Sanctuaries are found at §§ 922.160 and 922.180, respectively.

5. Revise § 922.41 to read as follows:

§ 922.41 Boundaries.

The boundary for each of the National Marine Sanctuaries is set forth in the site-specific regulations covered by this part.

6. Revise § 922.42 to read as follows:

§ 922.42 Allowed activities.

All activities (e.g., fishing, boating, diving, research, education) may be conducted unless prohibited or otherwise regulated in the site-specific regulations covered by this part, subject to any emergency regulations promulgated under this part, subject to all prohibitions, regulations, restrictions, and conditions validly imposed by any Federal, State, or local authority of competent jurisdiction, including but not limited to, Federal, Tribal, and State fishery management authorities, and subject to the provisions of section 312 of the National Marine Sanctuaries Act (NMSA) (16 U.S.C. 1431 et seq.). The Assistant Administrator may only directly regulate fishing activities pursuant to the procedure set forth in section 304(a)(5) of the NMSA.

7. Revise § 922.43 to read as follows:

§ 922.43 Prohibited or otherwise regulated activities.

The site-specific regulations applicable to the activities specified therein are set forth in the subparts covered by this part.

8. Revise § 922.44 to read as follows:

§ 922.44 Emergency regulations.

(a) Where necessary to prevent or minimize the destruction of, loss of, or injury to a Sanctuary resource or quality, or minimize the imminent risk of such destruction, loss, or injury, any and all such activities are subject to immediate temporary regulation, including prohibition.

(b) The provisions of this section do not apply to the following national marine sanctuaries with site-specific regulations that establish procedures for issuing emergency regulations:

(1) Cordell Bank National Marine Sanctuary, § 922.112(e).

(2) Florida Keys National Marine Sanctuary, § 922.165.

(3) Hawaiian Islands Humpback Whale National Marine Sanctuary, § 922.185.

(4) Thunder Bay National Marine Sanctuary, § 922.196.

(5) Mallows Bay-Potomac River National Marine Sanctuary, § 922.204.

(6) [Reserved]

9. Amend § 922.47 by revising paragraph (b) to read as follows:

§ 922.47 Pre-existing authorizations or rights and certifications of pre-existing authorizations or rights.

* * * * *

(b) The prohibitions listed in subparts F through P and R through T of this part do not apply to any activity authorized by a valid lease, permit, license, approval or other authorization in existence on the effective date of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary the effective date of the regulations in subpart P, and issued by any Federal, State or local authority of competent jurisdiction, or by any valid right of subsistence use or access in existence on the effective date of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary the effective date of the regulations in subpart P, provided that the holder of such authorization or right complies with certification procedures and

criteria promulgated at the time of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary the effective date of the regulations in subpart P, and with any terms and conditions on the exercise of such authorization or right imposed by the Director as a condition of certification as the Director deems necessary to achieve the purposes for which the Sanctuary was designated.

10. Revise § 922.48 to read as follows:

§ 922.48 National Marine Sanctuary permits—application procedures and issuance criteria.

(a) A person may conduct an activity prohibited by subparts F through O and S and T of this part, if conducted in accordance with the scope, purpose, terms and conditions of a permit issued under this section and subparts F through O and S and T, as appropriate. For the Florida Keys National Marine Sanctuary, a person may conduct an activity prohibited by subpart P of this part if conducted in accordance with the scope, purpose, terms and conditions of a permit issued under § 922.166. For the Thunder Bay National Marine Sanctuary and Underwater Preserve, a person may conduct an activity prohibited by subpart R of this part in accordance with the scope, purpose, terms and conditions of a permit issued under § 922.195.

(b) Applications for permits to conduct activities otherwise prohibited by subparts F through O and S and T of this part, should be addressed to the Director and sent to the address specified in subparts F through O of this part, or subparts R through T of this part, as appropriate. An application must include:

- (1) A detailed description of the proposed activity including a timetable for completion;
- (2) The equipment, personnel and methodology to be employed;
- (3) The qualifications and experience of all personnel;
- (4) The potential effects of the activity, if any, on Sanctuary resources and qualities; and
- (5) Copies of all other required licenses, permits, approvals or other authorizations.

(c) Upon receipt of an application, the Director may request such additional information from the applicant as he or she deems necessary to act on the application and may seek the views of any persons or entity, within or outside the Federal government, and may hold a public hearing, as deemed appropriate.

(d) The Director, at his or her discretion, may issue a permit, subject to such terms and conditions as he or she deems appropriate, to conduct a prohibited activity, in accordance with the criteria found in subparts F through O of this part, or subparts R through T of this part, as appropriate. The Director shall further impose, at a minimum, the conditions set forth in the relevant subpart.

(e) A permit granted pursuant to this section is nontransferable.

(f) The Director may amend, suspend, or revoke a permit issued pursuant to this section for good cause. The Director may deny a permit application pursuant to this section, in whole or in part, if it is determined that the permittee or applicant has acted in violation of the terms and conditions of a permit or of the regulations set forth in this section or subparts F through O of this part, or subparts R through T of this part or for other good cause. Any such action shall be communicated in writing to the permittee or applicant by certified mail and shall set forth the reason(s) for the action taken. Procedures governing permit sanctions and denials for enforcement reasons are set forth in subpart D of 15 CFR part 904.

11. Revise § 922.49 to read as follows:

§ 922.49 Notification and review of applications for leases, licenses, permits, approvals, or other authorizations to conduct a prohibited activity.

(a) A person may conduct an activity prohibited by subparts L through P of this part, or subparts R through T of this part, if such activity is specifically authorized by any valid Federal, State, or local lease, permit, license, approval, or other authorization issued after the effective date of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary after the effective date of the regulations in subpart P, provided that:

(1) The applicant notifies the Director, in writing, of the application for such authorization (and of any application for an amendment, renewal, or extension of such authorization) within fifteen (15) days of the date of filing of the application or the effective date of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary the effective date of the regulations in subpart P of this part, whichever is later;

(2) The applicant complies with the other provisions of this section;

(3) The Director notifies the applicant and authorizing agency that he or she does not object to issuance of the authorization (or amendment, renewal, or extension); and

(4) The applicant complies with any terms and conditions the Director deems reasonably necessary to protect Sanctuary resources and qualities.

(b) Any potential applicant for an authorization described in paragraph (a) of this section may request the Director to issue a finding as to whether the activity for which an application is intended to be made is prohibited by subparts L through P of this part, or subparts R through T of this part, as appropriate.

(c) Notification of filings of applications should be sent to the Director, Office of National Marine Sanctuaries at the address specified in subparts L through P of this part, or subparts R through T of this part, as appropriate. A copy of the application must accompany the notification.

(d) The Director may request additional information from the applicant as he or she deems reasonably necessary to determine whether to object to issuance of an authorization described in paragraph (a) of this section, or what terms and conditions are reasonably necessary to protect Sanctuary resources and qualities. The information requested must be received by the Director within 45 days of the postmark date of the request. The Director may seek the views of any persons on the application.

(e) The Director shall notify, in writing, the agency to which application has been made of his or her pending review of the application and possible objection to issuance. Upon completion of review of the application and information received with respect thereto, the Director shall notify both the agency and applicant, in writing, whether he or she has an objection to issuance and what terms and conditions he or she deems reasonably necessary to protect Sanctuary resources and qualities, and reasons therefor.

(f) The Director may amend the terms and conditions deemed reasonably necessary to protect Sanctuary resources and qualities whenever additional information becomes available justifying such an amendment.

(g) Any time limit prescribed in or established under this section may be extended by the Director for good cause.

(h) The applicant may appeal any objection by, or terms or conditions imposed by, the Director to the Assistant Administrator or designee in accordance with the provisions of § 922.50.

12. Revise § 922.50 to read as follows:

§ 922.50 Appeals of administrative action.

(a)(1) Except for permit actions taken for enforcement reasons (see subpart D of 15 CFR part 904 for applicable procedures), an applicant for, or a holder of, a National Marine Sanctuary permit; an applicant for, or a holder of, a Special Use permit issued pursuant to section 310 of the Act; a person requesting certification of an existing lease, permit, license or right of subsistence use or access under § 922.47; or, for those Sanctuaries described in subparts L through P and R through T of this part, an applicant for a lease, permit, license or other authorization issued by any Federal, State, or local authority of competent jurisdiction (hereinafter appellant) may appeal to the Assistant Administrator:

(i) The granting, denial, conditioning, amendment, suspension or revocation by the Director of a National Marine Sanctuary or Special Use permit;

(ii) The conditioning, amendment, suspension or revocation of a certification under § 922.47; or

(iii) For those Sanctuaries described in subparts L through P and R through T of this part, the objection to issuance of or the imposition of terms and conditions on a lease, permit, license or other authorization issued by any Federal, State, or local authority of competent jurisdiction.

(2) For those National Marine Sanctuaries described in subparts F through K and S and T of this part, any interested person may also appeal the same actions described in paragraphs (a)(1)(i) and (ii) of this section. For appeals arising from actions taken with respect to these National Marine Sanctuaries, the term “appellant” includes any such interested persons.

(b) An appeal under paragraph (a) of this section must be in writing, state the action(s) by the Director appealed and the reason(s) for the appeal, and be received within 30 days of receipt of notice of the action by the Director. Appeals should be addressed to the Assistant Administrator for Ocean Services and Coastal Zone Management, NOAA 1305 East-West Highway, 13th Floor, Silver Spring, MD 20910.

(c)(1) The Assistant Administrator may request the appellant to submit such information as the Assistant Administrator deems necessary in order for him or her to decide the appeal. The information requested must be received by the Assistant Administrator within 45 days of the postmark date of the request. The Assistant Administrator may seek the views of any other persons. For the Monitor National Marine Sanctuary, if the appellant has requested a hearing, the Assistant Administrator shall grant an informal hearing. For all other National Marine Sanctuaries, the Assistant Administrator may determine whether to hold an informal hearing on the appeal. If the Assistant Administrator determines that an informal hearing should be held, the Assistant Administrator may designate an officer before whom the hearing shall be held.

(2) The hearing officer shall give notice in the Federal Register of the time, place and subject matter of the hearing. The appellant and the Director may appear personally or by counsel at the hearing and submit such material and present such arguments as deemed appropriate by the hearing officer.

Within 60 days after the record for the hearing closes, the hearing officer shall recommend a decision in writing to the Assistant Administrator.

(d) The Assistant Administrator shall decide the appeal using the same regulatory criteria as for the initial decision and shall base the appeal decision on the record before the Director and any information submitted regarding the appeal, and, if a hearing has been held, on the record before the hearing officer and the hearing officer's recommended decision. The Assistant Administrator shall notify the appellant of the final decision and the reason(s) therefore in writing. The Assistant Administrator's decision shall constitute final agency action for the purpose of the Administrative Procedure Act.

(e) Any time limit prescribed in or established under this section other than the 30-day limit for filing an appeal may be extended by the Assistant Administrator or hearing office for good cause.

13. Add subpart S to read as follows:

SUBPART S – MALLOWS BAY–POTOMAC RIVER NATIONAL MARINE SANCTUARY

Sec.

922.200 Boundary.

922.201 Definitions.

922.202 Joint management.

922.203 Prohibited or otherwise regulated activities.

922.204 Emergency regulations.

922.205 Permit procedures and review criteria.

922.206 Certification of preexisting leases, licenses, permits, approvals, other authorizations, or rights to conduct a prohibited activity.

Appendix A to Subpart S of Part 922—Mallows Bay-Potomac River Marine Sanctuary

Boundary Description and Coordinates of the Lateral Boundary Closures and Excluded Areas

Appendix B to Subpart S of Part 922—Mallows Bay-Potomac River Marine Sanctuary Terms of Designation

§ 922.200 Boundary.

The Mallows Bay-Potomac River National Marine Sanctuary consists of an area of approximately 18 square miles of waters of the state of Maryland and the submerged lands thereunder, over, around, and under the underwater cultural resources in the Potomac River. The precise boundary coordinates are listed in appendix A to this subpart. The western boundary of the sanctuary approximates the border between the Commonwealth of Virginia and the State of Maryland along the western side of the Potomac River and begins at Point 1 north of the mouth of Aquia Creek in Stafford County Virginia near Brent Point. From this point the boundary continues to the north approximating the border between Virginia and Maryland cutting across the mouths of streams and creeks passing through the points in numerical order until it reaches Point 40 north of Tank Creek. From this point the sanctuary boundary continues east across the Potomac River in a straight line towards Point 41 until it intersects the Maryland shoreline just north of Sandy Point in Charles County MD. From this intersection the sanctuary boundary then follows the Maryland shoreline south around Mallows Bay, Blue Banks, and Wades Bay cutting across the mouths of creeks and streams along the eastern shoreline of the Potomac River until it intersects the line formed between Point 42 and Point 43 just south of Smith Point. Finally, from this intersection the sanctuary boundary crosses the Potomac River to the west in a straight line until it reaches Point 43 north of the mouth of Aquia Creek in Stafford County Virginia near Brent Point.

§ 922.201 Definitions.

(a) The following terms are defined for purposes of this subpart:

- (1) Sanctuary resource means any historical resource with the Sanctuary boundaries, as defined in § 922.3. This includes, but is not limited to, any sunken watercraft and any associated rigging, gear, fittings, trappings, and equipment; the personal property of the officers, crew, and passengers, and any cargo; and any submerged or partially submerged prehistoric, historic cultural remains, such as docks, piers, fishing-related remains (e.g., weirs, fish-traps) or other cultural heritage materials. Sanctuary resource also means any archaeological, historical, and cultural remains associated with or representative of historic or prehistoric American Indians and historic groups or peoples and their activities.
- (2) Traditional fishing means those commercial, recreational, and subsistence fishing activities that were customarily conducted within the Sanctuary prior to its designation or expansion, as identified in the relevant Final Environmental Impact Statement and Management Plan for this Sanctuary.
- (b) All other terms appearing in the regulations in this subpart are defined at 15 CFR 922.3, and/or in the Marine Protection, Research, and Sanctuaries Act, as amended, 33 U.S.C. 1401 et seq., and 16 U.S.C. 1431 et seq.

§ 922.202 Joint management.

NOAA has primary responsibility for the management of the Sanctuary pursuant to the Act. However, NOAA shall co-manage the Sanctuary in collaboration with the State of Maryland and Charles County. The Director shall enter into a Memorandum of Agreement regarding this collaboration that shall address, but not be limited to, such aspects as areas of mutual concern, including Sanctuary programs, permitting, activities, development, and threats to Sanctuary resources.

§ 922.203 Prohibited or otherwise regulated activities.

(a) Except as specified in paragraphs (b) and (c) of this section, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted:

(1) Moving, removing, recovering, altering, destroying, possessing, or otherwise injuring, or attempting to move, remove, recover, alter, destroy, possess or otherwise injure a Sanctuary resource, except as an incidental result of traditional fishing. This prohibition does not apply to possessing historical resources removed from the Sanctuary area before the effective date of the Sanctuary designation.

(2) Marking, defacing, or damaging in any way, or displacing or removing or tampering with any signs, notices, or placards, whether temporary or permanent, or with any monuments, stakes, posts, buoys, or other boundary markers related to the Sanctuary.

(3) Interfering with, obstructing, delaying or preventing an investigation, search, seizure or disposition of seized property in connection with enforcement of the Act or any regulation or any permit issued under the Act.

(b) The prohibitions in paragraphs (a)(1) through (3) of this section do not apply to any activity necessary to respond to an emergency threatening life, property or the environment; or to activities necessary for valid law enforcement purposes.

(c)

(1) All military activities shall be carried out in a manner that avoids to the maximum extent practicable any adverse impact on sanctuary resources and qualities.

(2) Any existing military activity conducted by DoD prior to the effective date of these regulations and as specifically identified in the Final Environmental Impact Statement and Final Management Plan for the Sanctuary (FEIS/FMP) is allowed to continue in the Sanctuary. The prohibitions in paragraphs (a)(1) through (3) of this section do not apply to those existing military activities or to the following military activities conducted by DoD:

- (A) Low-level overflight of military aircraft operated by DoD;
- (B) The designation of new units of special use airspace;
- (C) The use or establishment of military flight training routes;
- (D) Air or ground access to existing or new electronic tracking communications sites associated with special use airspace or military flight training routes; or
- (E) Activities to reduce or eliminate a threat to human life or property presented by unexploded ordnances or munitions.

(3) New military activities that do not violate the prohibitions in paragraphs (a)(1) through (3) of this section are allowed. Any new military activity that is likely to violate sanctuary prohibitions may become exempt through consultation between the Director and DoD pursuant to section 304(d) of the NMSA. For purposes of this paragraph, the term “new military activity” includes but is not limited to, any existing military activity that is modified in any way (including change in location, frequency, duration, or technology used) that is likely to destroy, cause the loss of, or injure a sanctuary resource, or is likely to destroy, cause the loss of, or injure a sanctuary resource in a manner or to an extent that was not considered in a previous consultation under section 304(d) of the NMSA.

(4) In the event of destruction of, loss of, or injury to a sanctuary resource or quality resulting from an incident, including but not limited to spills and groundings caused by DoD, the cognizant component shall promptly coordinate with the Director for the purpose of taking appropriate actions to prevent, respond to or mitigate the harm and, if possible, restore or replace the sanctuary resource or quality.

§ 922.204 Emergency regulations.

(a) Where necessary to prevent or minimize the destruction of, loss of, or injury to a Sanctuary resource, or to minimize the imminent risk of such destruction, loss, or injury, any and all activities, other than DoD activities, are subject to immediate temporary regulation, including prohibition. An emergency regulation shall not take effect without the approval of the Governor of Maryland or her/his designee or designated agency.

(b) Emergency regulations remain in effect until a date fixed in the rule or six months after the effective date, whichever is earlier. The rule may be extended once for not more than six months.

§ 922.205 Permit procedures and review criteria.

(a) Authority to issue general permits. The Director may allow a person to conduct an activity that would otherwise be prohibited by this subpart, through issuance of a general permit, provided the applicant complies with:

- (1) The provisions of subpart E of this part; and
- (2) The relevant site specific regulations appearing in this subpart.

(b) Sanctuary general permit categories. The Director may issue a sanctuary general permit under this subpart, subject to such terms and conditions as he or she deems appropriate, if the Director finds that the proposed activity falls within one of the following categories:

(1) Research—activities that constitute scientific research on or scientific monitoring of national marine sanctuary resources or qualities;

(2) Education—activities that enhance public awareness, understanding, or appreciation of a national marine sanctuary or national marine sanctuary resources or qualities; or

(3) Management—activities that assist in managing a national marine sanctuary.

(c) Review criteria. The Director shall not issue a permit under this subpart, unless he or she also finds that:

(1) The proposed activity will be conducted in a manner compatible with the primary objective of protection of national marine sanctuary resources and qualities, taking into account the following factors:

(i) The extent to which the conduct of the activity may diminish or enhance national marine sanctuary resources and qualities; and

(ii) Any indirect, secondary or cumulative effects of the activity.

(2) It is necessary to conduct the proposed activity within the national marine sanctuary to achieve its stated purpose.

(3) The methods and procedures proposed by the applicant are appropriate to achieve the proposed activity's stated purpose and eliminate, minimize, or mitigate adverse effects on sanctuary resources and qualities as much as possible.

(4) The duration of the proposed activity and its effects are no longer than necessary to achieve the activity's stated purpose.

(5) The expected end value of the activity to the furtherance of national marine sanctuary goals and purposes outweighs any potential adverse impacts on sanctuary resources and qualities from the conduct of the activity.

(6) The applicant is professionally qualified to conduct and complete the proposed activity.

(7) The applicant has adequate financial resources available to conduct and complete the proposed activity and terms and conditions of the permit.

(8) There are no other factors that would make the issuance of a permit for the activity inappropriate.

§ 922.206 Certification of preexisting leases, licenses, permits, approvals, other authorizations, or rights to conduct a prohibited activity.

(a) A person may conduct an activity prohibited by § 922.203(a)(1) through (3) if such activity is specifically authorized by a valid Federal, state, or local lease, permit, license, approval, or other authorization, or tribal right of subsistence use or access in existence prior to the effective date of sanctuary designation and within the sanctuary designated area and complies with § 922.49 and provided that the holder of the lease, permit, license, approval, or other authorization complies with the requirements of paragraph (e) of this section.

(b) In considering whether to make the certifications called for in this section, the Director may seek and consider the views of any other person or entity, within or outside the Federal government, and may hold a public hearing as deemed appropriate.

(c) The Director may amend, suspend, or revoke any certification made under this section whenever continued operation would otherwise be inconsistent with any terms or conditions of the certification. Any such action shall be forwarded in writing to both the holder of the certified

permit, license, or other authorization and the issuing agency and shall set forth reason(s) for the action taken.

(d) Requests for findings or certifications should be addressed to the Director, Office of National Marine Sanctuaries; ATTN: Sanctuary Superintendent, Mallows Bay-Potomac National Marine Sanctuary, 1305 East West Hwy., 11th Floor, Silver Spring, MD 20910. A copy of the lease, permit, license, approval, or other authorization must accompany the request.

(e) For an activity described in paragraph (a) of this section, the holder of the authorization or right may conduct the activity prohibited by § 922.203(a)(1) through (3) provided that:

(1) The holder of such authorization or right notifies the Director, in writing, within 180 days of the Federal Register notice announcing of effective date of the Sanctuary designation, of the existence of such authorization or right and requests certification of such authorization or right;

(2) The holder complies with the other provisions of this section; and

(3) The holder complies with any terms and conditions on the exercise of such authorization or right imposed as a condition of certification, by the Director, to achieve the purposes for which the Sanctuary was designated.

(f) The holder of an authorization or right described in paragraph (a) of this section authorizing an activity prohibited by § 922.203 may conduct the activity without being in violation of applicable provisions of § 922.203, pending final agency action on his or her certification request, provided the holder is otherwise in compliance with this section.

(g) The Director may request additional information from the certification requester as he or she deems reasonably necessary to condition appropriately the exercise of the certified authorization or right to achieve the purposes for which the Sanctuary was designated. The Director must receive the information requested within 45 days of the postmark date of the request. The Director may seek the views of any persons on the certification request.

(h) The Director may amend any certification made under this section whenever additional information becomes available that he/she determines justifies such an amendment.

(i) Upon completion of review of the authorization or right and information received with respect thereto, the Director shall communicate, in writing, any decision on a certification request or any action taken with respect to any certification made under this section, in writing, to both the holder of the certified lease, permit, license, approval, other authorization, or right, and the issuing agency, and shall set forth the reason(s) for the decision or action taken.

(j) The holder may appeal any action conditioning, amending, suspending, or revoking any certification in accordance with the procedures set forth in § 922.50.

(k) Any time limit prescribed in or established under this section may be extended by the Director for good cause.

Appendix A to Subpart S of Part 922—Mallows Bay-Potomac River Marine Sanctuary Boundary Description and Coordinates of the Lateral Boundary Closures and Excluded Areas

Coordinates listed in this appendix are unprojected (Geographic) and based on the North American Datum of 1983.

Table A1—Coordinates for Sanctuary

Point ID	Latitude	Longitude
----------	----------	-----------

1	38.39731	-77.31008
2	38.39823	-77.31030
3	38.39856	-77.31059
4	38.39886	-77.31074
5	38.39917	-77.31067
6	38.40014	-77.31074
7	38.40090	-77.31145
8	38.40138	-77.31215
9	38.40197	-77.31236
10	38.40314	-77.31278
11	38.40658	-77.31377
12	38.40984	-77.31465
13	38.41388	-77.31692
14	38.41831	-77.31913
15	38.41974	-77.31930
16	38.42352	-77.31971
17	38.42548	-77.32030
18	38.42737	-77.32081

19	38.43091	-77.32240
20	38.43163	-77.32242
21	38.43350	-77.32263
22	38.43384	-77.32269
23	38.43430	-77.32265
24	38.43461	-77.32229
25	38.43498	-77.32146
26	38.43526	-77.32057
27	38.43522	-77.32040
28	38.47321	-77.31845
29	38.47434	-77.31874
30	38.47560	-77.31752
31	38.47655	-77.31686
32	38.47748	-77.31666
33	38.47821	-77.31604
34	38.47871	-77.31554
35	38.47885	-77.31563
36	38.47905	-77.31559

37	38.47921	-77.31578
38	38.47943	-77.31592
39	38.47985	-77.31592
40	38.48493	-77.31335
41*	38.48554	-77.27298
42*	38.39793	-77.25704
43	38.39731	-77.31008

Note:

The coordinates in the table above marked with an asterisk (*) are not a part of the sanctuary boundary. These coordinates are landward reference points used to draw a line segment that intersects with the shoreline.

Appendix B to Subpart S of Part 922 — Mallows Bay-Potomac River Marine Sanctuary Terms of Designation

Terms of Designation for the Proposed Mallows Bay-Potomac River National Marine Sanctuary

Under the authority of the National Marine Sanctuaries Act, as amended (the “Act” or “NMSA”), 16 U.S.C. 1431 et seq., certain waters and submerged lands located off the Nanjemoy Peninsula of Charles County, Maryland and along the tidal Potomac River and its surrounding waters are hereby designated as a National Marine Sanctuary for the purposes of providing long-term protection and management of the historical resources and recreational, research, educational, and aesthetic qualities of the area.

Article I: Effect of Designation

The NMSA authorizes the issuance of such regulations as are necessary and reasonable to implement the designation, including managing and protecting the historical resources and recreational, research, and educational qualities of the Mallows Bay-Potomac River National Marine Sanctuary (the “Sanctuary”). Section 1 of Article IV of this Designation Document lists those activities that may have to be regulated on the effective date of designation, or at some later date, in order to protect Sanctuary resources and qualities. Listing an activity does not necessarily mean that it will be regulated; however, if an activity is not listed it may not be regulated, except on an emergency basis, unless Section 1 of Article IV is amended by the same procedures by which the original Sanctuary designation was made.

Article II: Description of the Area

The Mallows Bay-Potomac River National Marine Sanctuary consists of an area of approximately 18 square miles of waters of the State of Maryland and the submerged lands thereunder, over, around, and under the underwater cultural resources in the Potomac River between Stafford County Virginia and Charles County Maryland. The western boundary of the sanctuary approximates the border between the Commonwealth of Virginia and the State of Maryland for roughly 6 miles along the Potomac River, beginning north of the mouth of Aquia Creek in Stafford County Virginia near Brent Point and continuing north past Widewater, VA and Clifton Point to a point north of Tank Creek. From this point the sanctuary boundary crosses the Potomac to the east until it intersects the Maryland shoreline just north of Sandy Point in Charles County MD. From this point the eastern boundary of the sanctuary, approximately 8 miles in total length, follows the Maryland shoreline south past Mallows Bay, Blue Banks, and Wades Bay to a point just south of Smith Point. From this location the sanctuary boundary crosses the Potomac River to the west back to its point of origin north of the mouth of Aquia Creek near Brent Point on the Virginia side of the river.

Article III: Special Characteristics of the Area

Mallows Bay-Potomac River National Marine Sanctuary and its surrounding waters contain a diverse collection more than 100 known historic shipwreck vessels dating back to the Civil War and potentially dating back to the Revolutionary War as well as archaeological artifacts dating back 12,000 years indicating the presence of some of the region's earliest American Indian cultures, including the Piscataway Indian Nation and the Piscataway Conoy Confederacy and Sub-Tribes of Maryland. The area is most renowned for the remains of over 100 wooden steamships, known as the “Ghost Fleet,” that were built for the U.S. Emergency Fleet between 1917-1919 as part of U.S. engagement in WWI. Their construction at more than 40 shipyards in 17 states reflects the massive national wartime effort that drove the expansion and economic development of communities and related maritime service industries including the present-day Merchant Marines. The area is contiguous to the Captain John Smith Chesapeake National Historic Trail, the Star Spangled Banner National Historic Trail, the Potomac Heritage National Scenic Trail and the Lower Potomac Water Trail which offer meaningful educational and recreational opportunities centered on the region's culture, heritage and history. Additionally, the structure provided by the vessels and related infrastructure serve as important habitat to thriving populations of recreational fisheries, bald eagles, and other aquatic species. The area's listing on the National Historical Register of Places in 2015 codifies the historical, archaeological and recreational significance of the Ghost Fleet and related maritime cultural heritage sites in and around Mallows Bay—Potomac River National Marine Sanctuary.

Article IV: Scope of Regulations

Section 1. Activities Subject to Regulation. The following activities are subject to regulation, including prohibition, to the extent necessary and reasonable to ensure the protection and management of the historical resources and recreational, research and educational qualities of the area:

- a. Moving, removing, recovering, altering, destroying, possessing, or otherwise injuring, or attempting to move, remove, recover, alter, destroy, possess or otherwise injure a Sanctuary resource, except as an incidental result of traditional fishing (as defined in the regulations).
- b. Marking, defacing, or damaging in any way, or displacing or removing or tampering with any signs, notices, or placards, whether temporary or permanent, or with any monuments, stakes, posts, buoys, or other boundary markers related to the Sanctuary.
- c. Interfering with, obstructing, delaying or preventing an investigation, search, seizure or disposition of seized property in connection with enforcement of the Act or any regulation issued under the Act.

Section 2. NOAA will not exercise its authority under the NMSA to regulate fishing in the Sanctuary.

Section 3. Emergencies. Where necessary to prevent or minimize the destruction of, loss of, or injury to a Sanctuary resource; or minimize the imminent risk of such destruction, loss, or injury, any activity, including those not listed in Section 1, is subject to immediate temporary regulation. An emergency regulation shall not take effect without the approval of the Governor of Maryland or her/his designee or designated agency.

Article V: Relation to Other Regulatory Program

Section 1. Fishing Regulations, Licenses, and Permits. Fishing in the Sanctuary shall not be regulated as part of the Sanctuary management regime authorized by the Act. However, fishing in the Sanctuary may be regulated by other Federal, State, Tribal and local authorities of competent jurisdiction, and designation of the Sanctuary shall have no effect on any regulation, permit, or license issued thereunder.

Section 2. Other Regulations, Licenses, and Permits. If any valid regulation issued by any federal, state, Tribal, or local authority of competent jurisdiction, regardless of when issued, conflicts with a Sanctuary regulation, the regulation deemed by the Director of the Office of National Marine Sanctuaries, National Oceanic and Atmospheric Administration, or designee, in consultation with the State of Maryland, to be more protective of Sanctuary resources and qualities shall govern. Pursuant to section 304(c)(1) of the Act, 16 U.S.C. 1434(c)(1), no valid lease, permit, license, approval, or other authorization issued by any federal, state, Tribal, or local authority of competent jurisdiction, or any right of subsistence use or access, may be terminated by the Secretary of Commerce, or designee, as a result of this designation, or as a result of any Sanctuary regulation, if such lease, permit, license, approval, or other authorization, or right of subsistence use or access was issued or in existence as of the effective date of this designation. However, the Secretary of Commerce or designee, in consultation with the State of Maryland, may regulate the exercise of such authorization or right consistent with the purposes for which the Sanctuary is designated.

Section 3. Department of Defense Activities.

DoD activities shall be carried out in a manner that avoids to the maximum extent practicable any adverse impacts on sanctuary resources and qualities. Any existing military activity conducted by DoD prior to the effective date of these regulations and as specifically identified in the Final Environmental Impact Statement and Final Management Plan for the Sanctuary (FEIS/FMP) is allowed to continue in the Sanctuary. The prohibitions in section 922.203(a)(1) through (3) do not apply to those existing military activities listed in the FEIS/FMP or the

military activities conducted by DoD listed in section 922.203(c)(2). New military activities that do not violate the prohibitions in paragraphs (a)(1) through (3) of this section are allowed. Any new military activity that is likely to violate sanctuary prohibitions may become exempt through consultation between the Director and DoD pursuant to section 304(d) of the NMSA. The term “new military activity” includes but is not limited to, any existing military activity that is modified in any way (including change in location, frequency, duration, or technology used) that is likely to destroy, cause the loss of, or injure a sanctuary resource, or is likely to destroy, cause the loss of, or injure a sanctuary resource in a manner or to an extent that was not considered in a previous consultation under section 304(d) of the NMSA. In the event of destruction of, loss of, or injury to a sanctuary resource or quality resulting from an incident, including but not limited to spills and groundings caused by DoD, the cognizant component shall promptly coordinate with the Director for the purpose of taking appropriate actions to prevent, respond to or mitigate the harm and, if possible, restore or replace the sanctuary resource or quality.

Article VI. Alteration of This Designation

The terms of designation may be modified only by the same procedures by which the original designation is made, including public meetings, consultation according to the NMSA.

APPENDIX F: Letters from Maryland and Virginia Attorneys General

BRIAN F. FROSH
Attorney General

ELIZABETH F. HARRIS
Chief Deputy Attorney General

CAROLYN QUATTROCKI
Deputy Attorney General



STATE OF MARYLAND
OFFICE OF THE ATTORNEY GENERAL
DEPARTMENT OF NATURAL RESOURCES
580 TAYLOR AVENUE C4
ANNAPOLIS, MARYLAND 21401
MAIN OFFICE: (410) 260-8365
FAX: (410) 260-8364

Writer's Direct Dial No. (410)260-8352
Emily.Vainieri1@Maryland.gov

JENNIFER L. WAZENSKI
*Assistant Attorney General
Principal Counsel*

RACHEL L. EISENHAEUER
*Assistant Attorney General
Deputy Counsel*

SHARA MERVIS ALPERT
KRISTEN O. MANEVAL
ROGER H. MEDOFF
ROGER L. WOLFE, JR.
*Assistant Attorneys General
Senior Counsel*

CHRISTIAN J. DABB
SALLY A. LOWE
JANICE M. SIFREN
JULIA G. SOLOMON
EMILY A. VAINIERI
Assistant Attorneys General

VIA E-MAIL

March 16, 2017

Dave Blazer
Director, Fishing and Boating Service
Maryland Department of Natural Resources
580 Taylor Avenue, B-2
Annapolis, MD 21401

Dear Mr. Blazer:

I am writing in response to the January 31, 2017 letter you forwarded to the Maryland Office of the Attorney General. In that letter, Michael C. Mayo, counsel to the Potomac River Fisheries Commission (PRFC or the Commission), requested advice on the proposal by the National Oceanic and Atmospheric Administration (NOAA) to establish the Malloes Bay-Potomac River National Marine Sanctuary (MPNMS). Specifically, Mr. Mayo requested that this office:

- Ensure that the authority of the Commission not be impacted in any way nor the rights of its licensees and users of its resources be restricted from the taking or catching of finfish, crabs, oysters, clams or other shellfish by any and all means prescribed by the Commission; and
- Ensure through appropriate legal means that the livelihoods and individual rights of licensees and users of the resources of the Commission be protected in any designated marine sanctuaries if such sanctuaries are deemed necessary to preserve marine cultural heritage resources.

The PRFC appears to be asking for an analysis of the National Marine Sanctuaries Act and what effect that Act may or may not have on the PRFC's authority to regulate fishing in the main stem of the Potomac River. While I have provided some explanation of NOAA's proposed sanctuary designation, I suggest that the PRFC contact NOAA's legal counsel for the Office of Marine Sanctuaries or the Department of Justice, who have expertise in this subject matter.

Background

The National Marine Sanctuaries Act (16 U.S.C. 1431-1445) (the Act) authorizes the Secretary of Commerce to designate and protect any discrete area of the marine environment as a national marine sanctuary if the Secretary determines that the area is of special national significance due to its conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or aesthetic qualities. 16 U.S.C. 1433(a). The primary objective of the Act is to protect the sanctuary system's biological and cultural resources, such as coral reefs, marine animals, historical shipwrecks, historic structures, and archaeological sites. 82 Fed. Reg. 2255 (January 9, 2017). Under the Act, the Secretary has discretionary authority to promulgate any regulations necessary to manage the Marine Sanctuaries Program. 16 U.S.C. 1433(a).

NOAA is proposing to designate an area of approximately 52 square miles of the Potomac River as the MPNMS. The proposed MPNMS would include a diverse collection of historic shipwrecks that date back to the Civil War and potentially date to the American Revolutionary War, totaling nearly 200 known vessels including the remains of the largest "Ghost Fleet" of World War I, wooden steamships built for the U.S. Emergency Fleet. 82 Fed. Reg. 2255 (January 9, 2017).

Analysis

First, this proposed designation does not regulate fishing. The proposed rule explicitly states that fishing in the Sanctuary will "not be regulated as part of the Sanctuary management regime authorized by the Act." It also states – again, explicitly – that "designation of the Sanctuary shall have no effect on any regulation, permit, or license issued" by any federal, State, tribal, or local authorities. 82 Fed. Reg. 2268 (January 9, 2017) (to be codified at Appendix B, Article V.1). Therefore, by its very terms, this proposed rule would seem to have no effect on validly-issued PRFC authorizations.

Second, as explained in the proposed rule, the proposed sanctuary "would concentrate on the protection, access and interpretation of the maritime cultural features of the area, including the Ghost Fleet, other vessels of historic significance, and related maritime infrastructure." 82 Fed. Reg. 2256 (January 9, 2017). Because Maryland already has a comprehensive set of laws and regulations focused on the protection of the natural environment, including wildlife, fish, birds, water quality, and habitat, "NOAA's proposed sanctuary regulations would focus only on the protection of the shipwrecks and associated maritime cultural heritage resources." *Id.*

By contrast, the proposed rule excludes fish and fishing activities. NOAA is proposing to narrowly define "sanctuary resource" for the MPNMS to include only the maritime cultural heritage resources of the sanctuary and to prohibit only those activities that have an effect on those maritime cultural heritage resources. Whereas the national definition of "sanctuary resource" includes fish and other living resources,¹ the proposed definition of "sanctuary resource" for the MPNMS is much narrower and does not include any living resources:

¹ Under the national definition, "sanctuary resource" means "any living or non-living resource of a National Marine Sanctuary that contributes to the conservation, recreational, ecological, historical, research, educational, or aesthetic

Sanctuary resource means any historical resource within the Sanctuary boundaries, as defined in §922.3. This includes, but is not limited to, any sunken watercraft and any associated rigging, gear, fittings, trappings, and equipment; the personal property of the officers, crew, and passengers, and any cargo; and any submerged or partially submerged prehistoric, historic cultural remains, such as docks, piers, fishing-related remains (e.g., wiers, fish-traps) or other cultural heritage materials. Sanctuary resource also means any archaeological, historical, and cultural remains associated with or representative of historic or prehistoric American Indians and historic groups or peoples and their activities.

82 Fed. Reg. 2264 (January 9, 2017) (to be codified at 15 C.F.R § 922.201(a)(1)).

Third, none of the three proposed regulations prohibit any fishing activities. NOAA is proposing to protect the sanctuary resources by: (1) prohibiting damaging a sanctuary resource; (2) prohibiting damaging sanctuary signs; and (3) prohibiting interfering with sanctuary enforcement activities. 82 Fed. Reg. 2264-2265 (January 9, 2017) (to be codified at 15 C.F.R. § 922.203). The definition of “sanctuary resource” is significant because NOAA’s proposed regulations apply only to activities involving a “sanctuary resource.” If the activity is not listed in the proposed regulations, it cannot be regulated through the current proposed rulemaking. As provided in the Terms of Designation, the Act:

authorizes the issuance of such regulations as are necessary and reasonable to implement the designation, including managing and protecting the historical resources and recreational, research, and educational qualities of the ... Sanctuary. . . . Listing an activity does not necessarily mean that it will be regulated; however, if an activity is not listed it may not be regulated, except on an emergency basis, unless Section 1 of Article IV is amended by the same procedures by which the original Sanctuary designation was made.

82 Fed. Reg. 2268 (January 9, 2017) (to be codified at Appendix B, Article I). Furthermore, any changes to the sanctuary designation and its impact on fishing could not be enacted without further involvement of the State of Maryland and the public. For example, any emergency regulations that may purport to affect fish or fishing activities in the Sanctuary would not become effective without the approval of the Governor of Maryland (or his designee or designated agency). 82 Fed. Reg. 2265 (January 9, 2017) (to be codified at 15 C.F.R. § 922.204(a)). And any future proposed changes to the regulations are subject to the same notice and public comment process as the currently proposed designation. 82 Fed. Reg. 2258 (January 9, 2017); 16 U.S.C. 1434.

Fourth, none of these regulations are expected to have any impact on commercial or recreational fishing activities. NOAA evaluated the potential impact of the three regulations on small businesses including commercial fishing, recreational for-hire fishing operations, dive

value of the Sanctuary, including, but not limited to, the substratum of the area of the Sanctuary, other submerged features and the surrounding seabed, carbonate rock, corals, and other bottom formations, coralline algae and other marine plants and algae, marine invertebrates, brine-seep biota, phytoplankton, zooplankton, fish, seabirds, sea turtles and other marine reptiles, marine mammals and historical resources.” (16 U.S.C. 922.3).

Mr. Dave Blazer
March 16, 2017
Page 4

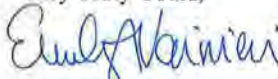
operations and other water recreated based operators and concluded that there would be no impact. 82 Fed. Reg. 2261 (January 9, 2017). "The gear likely to be used to commercially fish or recreationally fish in the sanctuary will not be impacted by this regulation [prohibiting damaging a sanctuary resource]. Therefore, commercial fishing operations and for-hire operations are not expected to be impacted. Education and outreach will be used to educate user groups about the location of the sanctuary resources to prevent anchor damages." *Id.* Further, NOAA proposes to co-manage the Sanctuary in collaboration with the State of Maryland and Charles County in order to protect the sanctuary resources and work together to address any concerns that may arise in the future. NOAA, Maryland, and the County will enter into a Memorandum of Understanding "regarding this collaboration that shall address, but not be limited to, such aspects as areas of mutual concern, including Sanctuary programs, permitting, activities, development, and threats to Sanctuary resources." 82 Fed. Reg. 2264 (January 9, 2017) (to be codified at 15 C.F.R. § 922.202).

Conclusion

The proposed designation of MPNMS does not regulate fishing. The proposed rule is focused on protecting the shipwrecks and associated maritime cultural heritage resources. The three proposed regulations do not prohibit any fishing activities. Any future changes to the scope of the designation or prohibited activities are subject to the federal public notice and rulemaking process.

I hope this response sufficiently addresses your concerns. Please feel free to call me should you have any additional questions.

Very Truly Yours,



Emily A. Vainieri
Assistant Attorney General

cc: Adam Snyder (Chief Counsel, Opinions & Advice)

**ADVICE OF COUNSEL
NOT AN OPINION OF THE ATTORNEY GENERAL**



COMMONWEALTH of VIRGINIA

Office of the Attorney General

Mark R. Herring
Attorney General

March 15, 2017

202 North Ninth Street
Richmond, Virginia 23219
804-786-2071
Fax 804-786-1991
Virginia Relay Services
800-828-1120
7-1-1

The Honorable John M.R. Bull
Commissioner, Virginia Marine Resources Commission
2600 Washington Avenue, Third Floor
Newport News, Virginia 23607

Dear Commissioner Bull:

I am responding to your request for an official advisory opinion in accordance with § 2.2-505 of the *Code of Virginia*.

Issues Presented

You inquire about the effect of the designation of an area of the Potomac River as a national marine sanctuary. Specifically, you ask whether the sanctuary designation could displace the authority of the Potomac River Fisheries Commission (the "Commission") to regulate fisheries in the area; if so, whether the proposal does, in fact, do so; and, if the proposal does not displace the Commission's authority, whether the federal government could be bound by an agreement not to do so in the future.

Background

The National Oceanic and Atmospheric Administration ("NOAA") has proposed to designate a part of the Potomac River as the Mallow Bay-Potomac River National Marine Sanctuary (the "Potomac Sanctuary").¹ By designating the area as a sanctuary, NOAA aims to protect the cultural heritage resources found in the area—principally, historic shipwrecks potentially dating back to the American Revolution and the remains of the largest "ghost fleet" of wooden steamships built for the United States Emergency Fleet during World War I.² Fishermen and other interested parties have expressed concern that the proposal will interfere with the regulatory authority of the Potomac River Fisheries Commission ("Commission") over fisheries in the river.

The Commission was created by the Potomac River Compact of 1958, an agreement between the State of Maryland and the Commonwealth approved by Congress in 1962.³ It has the authority to

¹ Notice of Proposed Rulemaking to Establish Mallow Bay-Potomac River National Marine Sanctuary, 82 Fed. Reg. 2254, 2255 (Jan. 9, 2017) (to be codified at 15 C.F.R. pt. 922) [hereinafter Notice of Proposed Sanctuary].

² *Id.* at 2255-56.

³ VA. CODE ANN. § 28.2-1001, art. I, § 1 (2016); Potomac River Compact of 1958, Pub. L. No. 87-783, 76 Stat. 797 (1962).

regulate the taking of fish and shellfish in designated tidal waters of the Potomac River.⁴ The law enforcement agencies of both Maryland and Virginia are responsible for the enforcement of the Commission's regulations, and each state's courts have jurisdiction to hear cases involving a regulatory violation.⁵

Applicable Law and Discussion

The National Marine Sanctuaries Act⁶ ("NMSA") establishes NOAA's authority to designate marine sanctuaries. NMSA enables NOAA to provide for more stringent fishing regulations in a sanctuary than are provided by existing authorities. In this instance, however, NOAA is not proposing to exercise that authority. Although NOAA cannot enter into a binding agreement to restrict its ability to exercise that authority in the future, NMSA establishes certain checks on NOAA that could stop any future effort to regulate fishing.

1. NOAA may regulate fishing within a national marine sanctuary.

NOAA has the authority to regulate fishing activity in an area it properly designates as a sanctuary.⁷ When it enacted NMSA, Congress recognized that certain areas of the marine environment possess important conservation, historical, scientific, cultural, or other qualities that give them national significance.⁸ It further recognized that the kind of resource-specific legislation that had been enacted up to that time had failed to adequately protect those resources.⁹ To remedy that problem, Congress enacted NMSA "to provide authority for comprehensive and coordinated conservation and management of [sanctuaries], and activities affecting them, in a manner which complements existing regulatory authorities."¹⁰ In other words, NMSA was designed to provide for a single federal agency to coordinate the efforts of other regulators and, if the efforts of those regulators were insufficient, to provide comprehensive regulations to manage all activities in, and features of, a marine sanctuary, including

⁴ VA. CODE ANN. § 28.2-1001, art. II & art. III, § 2.

⁵ Section 28.2-1001, art. V, §§ 1, 3.

⁶ See generally 16 U.S.C. §§ 1431 to 1445c-1 (LexisNexis, current through Pub. L. No. 114-328).

⁷ There is little doubt that the Potomac Sanctuary is an area that may be designated as a sanctuary. Under NMSA, NOAA "may designate any discrete area of the marine environment as a national marine sanctuary" 16 U.S.C. § 1433(a). The term "marine environment" is defined as including, among other things, coastal waters. *Id.* § 1432(3). The term "coastal waters," in turn, is defined in the Coastal Zone Management Act as "those waters, adjacent to the shorelines, which contain a measurable quantity or percentage of seawater, including, but not limited to, sounds, bays, lagoons, bayous, ponds, and estuaries." *Id.* § 1453(3). A water quality monitoring station near the downstream extremity of NOAA's preferred boundary reflects a mean surface water salinity ranging between 1 part per thousand ("ppt") to 4 ppt. MARYLAND DEPARTMENT OF NATURAL RESOURCES, *Fixed Station Monthly Monitoring Data, Lower Potomac River – Maryland Point*, EYES ON THE BAY, available at http://eyesonthebay.dnr.maryland.gov/bay_cond/bay_cond.cfm?param=sal&station=RET22 (last visited Feb. 28, 2017). A monitoring station near the upstream limit of the Potomac Sanctuary shows a much lower, albeit still measurable, mean salinity. MARYLAND DEPARTMENT OF NATURAL RESOURCES, *Fixed Station Monthly Monitoring Data, Lower Potomac River – Quantico*, EYES ON THE BAY, available at http://eyesonthebay.dnr.maryland.gov/bay_cond/bay_cond.cfm?param=sal&station=TF24 (last visited Feb. 28, 2017). Thus, the waters that will ultimately comprise the Potomac Sanctuary are coastal waters subject to designation under NMSA.

⁸ 16 U.S.C. § 1431(a)(2).

⁹ *Id.* § 1431(a)(3).

¹⁰ *Id.* § 1431(b)(2).

recreational and commercial fishing.¹¹ Thus, NMSA provides NOAA with the authority to supplement or displace the Commission's fishing regulations in the Potomac Sanctuary.

2. NOAA is not proposing to exercise that authority in the Potomac Sanctuary.

While NOAA has the authority to regulate fishing in a sanctuary, it has not proposed to exercise that authority in the Potomac Sanctuary and has not taken the necessary predicate steps to do so. In fact, NOAA has disclaimed any intent to regulate fishing at all.¹² The proposed regulations for the Potomac Sanctuary only apply to historical resources,¹³ which are defined as "any resource possessing historical, cultural, archaeological or paleontological significance, including sites, contextual information, structures, districts, and objects significantly associated with or representative of earlier people, cultures, maritime heritage, and human activities and events."¹⁴ Notably, other resources included as protected resources in other sanctuaries, such as fish, marine mammals, and seabirds, are not defined as sanctuary resources in the Potomac Sanctuary.¹⁵ Because the proposed regulations apply only to designated historical resources,¹⁶ fishing, which does not involve exploiting historical resources, is not regulated.¹⁷

Furthermore, NOAA is not proposing to take the necessary predicate steps to directly regulate fishing in the Potomac Sanctuary. Under NMSA, NOAA must include, among other things not relevant here, the types of activities that will be subject to regulation in the proposed sanctuary in the designation document that establishes the sanctuary.¹⁸ The proposal for the designation document establishing the

¹¹ See *id.* § 1434(a)(5) (providing NOAA with the ability to promulgate fishing regulations applicable in sanctuaries in cooperation with other fishery management authorities).

¹² Notice of Proposed Sanctuary, *supra* note 1, at 2268 ("Fishing in the Sanctuary shall not be regulated as part of the Sanctuary management regime authorized by the Act.").

¹³ *Id.* at 2264.

¹⁴ 15 C.F.R. § 922.3 (2017).

¹⁵ Notice of Proposed Sanctuary, *supra* note 1, at 2261-62, 64.

¹⁶ *Id.* at 2264 (forbidding the "moving, removing, recovering, altering, destroying, possessing, or otherwise injuring" historical resources within the Potomac Sanctuary). The proposed regulations would also prohibit attempting to do any of the prohibited actions toward historical resources, damaging or displacing any signs or other markers related to the sanctuary, and obstructing investigations related to the enforcement of the regulations or of NMSA. *Id.* at 2264-65.

¹⁷ Of course, this does not mean that commercial and recreational fishing will not be impacted at all by the designation of the Potomac Sanctuary. While NOAA has said that it does not expect the designation to impact any commercial or recreational fishing activity, *id.* at 2261, some fishing gear is anchored to, or disturbs, submerged land and could damage the historical resources in the river. A fisherman is unlikely to use such gear in such a way that it would damage a historical resource for fear of damaging or destroying his gear. Nevertheless, a fisherman may mistakenly do so and, in so doing, violate the strict liability provisions of NMSA. See *United States v. Great Lakes Dredge & Dock Co.*, 259 F.3d 1300, 1304 (11th Cir. 2001) ("In this case, the United States seeks damages from defendants for a violation of § 1443 of the NMSA, which imposes strict liability for damage or injury to any sanctuary resource."). As NOAA notes, perhaps the best way to limit the danger of such an occurrence is to provide education to fishermen in the area so that they can avoid the protected resources. OFFICE OF NATIONAL MARINE SANCTUARIES, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, *Proposed Mallow's Bay – Potomac River National Marine Sanctuary Designation: Draft Environmental Impact Statement and Draft Management Plan*, 32 (2016), available at <http://sanctuaries.noaa.gov/mallows-bay/mallows-proposed-deis-dmp.pdf>.

¹⁸ 16 U.S.C. § 1434(a)(4).

Potomac Sanctuary does not list either commercial or recreational fishing among the activities that will be subject to regulation.¹⁹

3. NOAA cannot enter into a binding agreement not to regulate fisheries, but Maryland has effective checks on NOAA's authority to stop any future effort to do so.

NOAA cannot be stopped from exercising its authority over fisheries in the future through a binding agreement, but it would be unable to regulate fishing in the Potomac Sanctuary in the future absent Maryland's concurrence. As with any other administrative agency, NOAA has only the authority delegated to it by Congress.²⁰ While NMSA authorizes NOAA to enter into cooperative agreements and other contracts with, among other entities, states and regional agencies, such agreements must be entered into to aid in carrying out the purposes and policies set forth in NMSA.²¹ Given that one of the policies of NMSA is to provide for comprehensive management of sanctuaries and the activities occurring in them,²² an agreement in which the entity responsible for managing the Potomac Sanctuary agrees not to exercise its authority to regulate a particular activity occurring therein would not be authorized and would be unenforceable. Of course, the Commission could still enter into a cooperative agreement with NOAA to set forth each party's understanding of the proper regulation of fishing in the Potomac Sanctuary, but it may not insist that NOAA bargain away its regulatory authority in that agreement.

This inability to contractually limit NOAA's authority over fishing must be considered in the larger legal context. Specifically, should NOAA decide in the future to regulate fishing within the Potomac Sanctuary, it would need the concurrence of Maryland to proceed. As noted above, NOAA has not included commercial or recreational fishing as activities subject to regulation in the designation document.²³ It cannot regulate those activities until they are added to the designation document, and the designation document cannot be amended without going through the same process that NOAA went through to promulgate it in the first place.²⁴ Thus, the modification would have to be published for public comment, a public hearing would have to be held in the area of the Potomac Sanctuary, and the proposal would have to be submitted to certain committees of Congress and the governor of Maryland.²⁵ Because the Potomac Sanctuary is entirely within Maryland waters, the governor of Maryland could eliminate any proposed amendment to the designation document to provide for NOAA regulation of fishing by certifying to the Secretary of Commerce that the proposed amendment is unacceptable.²⁶

¹⁹ See Notice of Proposed Sanctuary, *supra* note 1, at 2268 (stating that the activities that will be subject to regulation in the Potomac Sanctuary are damaging sanctuary resources, damaging sanctuary property, and interfering with or otherwise obstructing an investigation or law enforcement measure in the Potomac Sanctuary).

²⁰ See *Michigan v. EPA*, 268 F.3d 1075, 1081 (D.C. Cir. 2001) ("Thus, if there is no statute conferring authority, a federal agency has none.").

²¹ 16 U.S.C. § 1442(a).

²² *Id.* § 1431(b)(2).

²³ See *supra* note 19 and accompanying text.

²⁴ 16 U.S.C. § 1434(a)(4) ("The terms of designation of a sanctuary shall include . . . the types of activities that will be subject to regulations by [NOAA] to protect [the characteristics of the sanctuary]. The terms of the designation may be modified only by the same procedures by which the original designation is made.").

²⁵ *Id.* § 1434(a)(1), (3), (6), (b)(1).

²⁶ See *id.* § 1434(b)(1) ("The designation . . . shall take effect and become final . . . unless, in the case of a national marine sanctuary that is located partially or entirely within the seaward boundary of any State, the Governor affected certifies to the Secretary that the designation or any of its terms is unacceptable, in which case the designation or the unacceptable term shall not take effect in the area of the sanctuary lying within the seaward boundary of the State.").

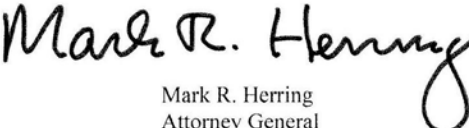
Honorable John M.R. Bull
March 15, 2017
Page 5

Conclusion

Accordingly, it is my opinion that NOAA has the authority to regulate fishing in the Potomac Sanctuary but has not chosen to exercise that authority in this instance. While NOAA cannot enter into a binding agreement in which it bargains away its authority, the Governor of Maryland is empowered under NMSA to effectively veto any attempt by NOAA to directly regulate fishing in the Potomac Sanctuary.

With kindest regards, I am

Very truly yours,


Mark R. Herring
Attorney General

APPENDIX G: Summary of Existing Military Activities

Activity	Description	Location: 1) In-Air/ Ashore/In Water, 2) Facility, 3) Area impacted	Frequency	Duration	Technology Used	Ordnance Use	Potential Effects on Proposed Mallows Bay- Potomac River National Marine Sanctuary
USAG ALC Blossom Point Research Facility							
Large-caliber gun testing, including lot acceptance and proof testing, projectile and fuze testing, reactive materials testing, electromagnetic (EM) launcher testing, integrated targeting and fire control systems testing, missiles, rockets, and launcher components operations testing, operational improvements testing, high-speed penetrating projectiles testing, and long-range gun accuracy.	Live fire of propellant charged guns, air cannons	In and around BPRF and its waterlines.	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	Mortars, rockets, propellants	Transits on main river and its tributaries from Maryland Point to Mathias Point, Virginia could be subject to noise, blast pressure, laser lights fragments, or projectiles, frequency interruptions. Given the combination of activity and location, there would be no direct or indirect effect on sanctuary resources.
Laser testing, including the research, development, testing, and evaluation (RDT&E) of sensors, rangefinders, target designators, guidance systems, simulators, communications systems, and laser weapons.	High powered laser units	On BPRF land	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	N/A	Lights and lasers transmitted along with numerous frequencies. Given the combination of activity and location, there would be no direct or indirect effect on sanctuary resources.
Landing Craft Air Cushion (LCAC) training operations on Potomac River and tributary creeks.	During landing and takeoff operations	Shoreline and beaches	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one	N/A	Noise, lights, wakes from boats. Given the combination of activity, location, and assumptions that LCAC avoid dangers to navigation (aka the Mallows shipwrecks that are the

					of a kind, prototypes		sanctuary resources), there would be no direct or indirect effect on sanctuary resources.
Small remotely operated vehicle (ROV), drone, watercraft testing, demonstration, detection and countermeasures (includes electronic and explosive disruption activities).	Takeoff and landing and flying over the ranges, and shoreline	Airways over BPRF and over the waterways of Potomac and Nanjemoy Creek	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	N/A	Noise, lights, possible recovery tasks into the water area. Given the combination of activity and location (around BRRF), there would be no direct or indirect effect on sanctuary resources.
Testing of rocket motors (small and large motor).	Live fire of up to five inch rockets	Shoreline and possibly into Potomac waterways	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	Propellants	Noise, lights, impacts, fragments and rocket bodies. Given the combination of activity and location (around BRRF), there would be no direct or indirect effect on sanctuary resources.
Land-based explosives test operations, including characterization of high explosive anti-tank, directional fragmentation device and explosively formed projectile warheads, in conjunction with countermeasures development utilizing explosive tools, thermal, and kinetic countercharge attacks.	Live energetics firing	On BPRF land	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	Energetics and other pyrotechnics	Noise, lights, fragments, high and low explosives. Given the combination of activity and location (on land), there would be no direct or indirect effect on sanctuary resources.
Helicopter and unmanned vehicle overflight of Potomac River and areas adjacent to installations related to training and testing operations.	Live landing of helicopters (man-sized) and unmanned aircraft systems (UAS)	Flying of full size helicopters and UASs in air space over land and water next to BPRF	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	N/A	Noise, lights, up drafts and down drafts. Air movement and flying objects. Given the combination of activity and location (around BRRF), there would be no direct or indirect effect on sanctuary resources.

Underwater sonar training, demonstration, testing, detection operations (divers and small ROV's).	Development of new underwater unexploded ordnance (UXO) detector	In the Potomac River, Nanjemoy Creek, and Port Tobacco River	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	N/A	Boats, waves, wakes, noise, lights, no boating zones, no wake zones. Given the combination of activity and location (in river and creeks around BRRF), there would be no direct or indirect effect on sanctuary resources.
Small arms firing from land-based locations at targets in adjacent water ranges.	Security personnel training on six month rotation	Testing of skills and weaponry on the small arms range	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	Guns and grenades and other devices	Noise, lights, sirens, ricochet bullets. Given the combination of activity and location (around BRRF), there would be no direct or indirect effect on sanctuary resources.
Unmanned underwater vehicles use in the detection of unexploded ordnance and to facilitate RDT&E activities.	Remedial investigation of UXO	Potomac River, Nanjemoy Creek, and Port Tobacco River	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	N/A	Boats, noise, lights, no wake zones, support vehicles, rafts etc. Given the combination of activity and location (in river and creeks around BRRF), there would be no direct or indirect effect on sanctuary resources.
Live and inert ordnance investigation, recovery, and emergency response operations (including in historic water ranges).	Emergency response team training	On one of the 16 ranges at BPRF	Varies, with the most frequent being daily	Varies, up to 24 hours per day	Ground penetration radar, x-ray, waterway investigation with different frequencies	N/A	Noise, lights, sirens, helicopters. Given the combination of activity and location (in river and creeks around BRRF ranges), there would be no direct or indirect effect on sanctuary resources.
Range support boat operations, inclusive of boat traffic traversing through navigable boundaries to support other installations as needed.	Testing of new nautical equipment from laboratory technicians	Potomac River, Nanjemoy Creek, and Port Tobacco River	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	N/A	Noise, lights, boats, boat traffic, waves, no wake zones. Given the combination of activity and location, there would be no direct or indirect effect on sanctuary resources.

Use of electromagnetic sensors (such as modified passive sonobuoys) and acoustic transmitters for testing below water. Land-based and underwater detonations.	Testing UXO survey equipment	Potomac River and Nanjemoy Creek	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	N/A	Boat noise, waves, wakes, no wake zones, lights, sirens. Given the combination of activity and location, there would be no direct or indirect effect on sanctuary resources.
Directed energy operations and testing to include the use of flash radiography at both indoor and outdoor land-based locations.	Testing radiography of live fire weapons on shore	One of 16 ranges at BPRF	Varies, with the most frequent being daily	Varies, up to 24 hours per day	New and untested technologies, proof of concepts, one of a kind, prototypes	Lasers, flash radiography equipment, x-rays	Noise, lights, sirens, impact noise and detonations. Given the combination of activity and location (around BRRF ranges), there would be no direct or indirect effect on sanctuary resources.
NSA South Potomac							
Large and small-caliber gun testing	Large and small-caliber gun testing, including but not limited to lot acceptance and proof testing, projectile and fuze testing, reactive materials testing, electromagnetic (EM) launcher testing, integrated targeting and fire control systems testing, missiles, rockets, and launcher components operations testing, operational improvements testing, high-speed penetrating projectiles testing, and long-range gun accuracy.	In air, in water, and ashore on NSF Dahlgren and in the Upper, Middle, and Lower danger zones of the Potomac River Test Range (PRTR)	Daily	0730-1730	See "Activity"	Various, live, and inert	Operations conducted downriver of proposed national marine sanctuary. No direct or indirect effect on sanctuary resources.
Laser/directed energy testing	Laser testing, including the research, development, testing,	In air, in water and ashore on NSF Dahlgren	Daily	0730-1730	Lasers/directed energy	None	Operations conducted downriver of proposed national marine sanctuary.

	and evaluation (RDT&E) of sensors, rangefinders, target designators, guidance systems, simulators, communication systems, and laser weapons.	and in the Upper and Middle danger zones of the PRTR.					No direct or indirect effect on sanctuary resources.
Robotic testing operations	Remotely operated vehicles (ROV, drone, watercraft) testing, demonstration, detection, and countermeasures (includes electronic and explosive disruption activities).	In air, in water, and ashore on NSF Dahlgren and NSF Indian Head, in the surrounding installation danger zones and within the PRTR.	Daily	0730-1730	Remotely operated ground, air, water, and underwater vehicles	Various, live and inert	No known direct or indirect effect on sanctuary resources.
Thermal treatment of energetics	Thermal treatment (open burn/open detonation disposal, RDT&E) of energetics.	Ashore on NSF Dahlgren and NSF Indian Head.	Daily	Up to 10 hours per day	Explosives, gaseous fuels, remote ignition	Various, live and inert ordnance; waste explosive materials	Operations conducted upriver and downriver from the proposed national marine sanctuary. No direct or indirect effect on sanctuary resources, however marine transits may be limited and may cause operational delays.
Land-based explosives test operations	Land-based explosives test operations, including but not limited to characterization of high explosive anti-tank, directional fragmentation devices and explosively formed projectile warheads in conjunction with countermeasures development utilizing explosive tools, thermal, and kinetic countercharge attacks.	Ashore on NSF Dahlgren and NSF Indian Head.	Daily	0730-1730	Various, as well as liquid fuels	Various, live and inert including rocket motors, rocket catapults, blasting caps, igniters, C-4, HME's, TNT, Various PBX formulations and other	Operations conducted upriver and downriver from the proposed national marine sanctuary. No direct or indirect effect on sanctuary resources, however marine transits may be limited and may cause operational delays.

	Open air detonation of high explosives.					R&D formulations.	
Chemical and biological simulant testing	Testing operations using biological and chemical simulants.	In air, in water, and ashore on NSF Dahlgren and NSF Indian Head (pending), within installation danger zones/PRTR.	Average 70 times per year	0730-1730	Chemical and biological simulants, remote sensors	None	Operations conducted upriver and downriver from the proposed national marine sanctuary. No direct or indirect effect on sanctuary resources, however marine transits may be limited and may cause operational delays.
Flight operations	Helicopter and unmanned vehicle overflight of Potomac River and areas adjacent to installations, related to training and testing operations.	In air over NSF Indian Head, NSF Dahlgren, and Upper and Middle danger zones of the PRTR.	Average 20 times per year	0730-1730	Airborne vehicles, including helicopters and battery-powered class 1/2 small unmanned air systems (UAS)	None	No direct or indirect effect on sanctuary resources.
Dive operations	Training and testing operations.	In water, including public waterways, and within installation danger zones.	As needed	0730-1730	Vessels, divers	None	No direct or indirect effect on sanctuary resources.

Landing Craft Air Cushion (LCAC) training operations	LCAC training operations on Potomac River and tributary creeks may traverse the Potomac River channel area through MPNMS.	In water, including public waterways, and within installation danger zones.	Approximately two to three per year (training) or as needed in event of emergency response	0730-1730	Vessels	None	No direct or indirect effect on sanctuary resources.
Sonar activity	Underwater sonar training, demonstration, testing, detection operations (divers and small ROV's).	In water at NSF Dahlgren and NSF Indian Head within the installations danger zones.	Average 50 times per year	0730-1730	Electronic equipment	None	Operations conducted upriver and downriver from the proposed national marine sanctuary. No direct or indirect effect on sanctuary resources.
Range control/support vessel/incident response operations	Range control/support boat/incident response operations.	In water at NSF Dahlgren and NSF Indian Head within the installations danger zones.	As needed, often daily	0700-1800	Vessels	None	No direct or indirect effect on sanctuary resources.
Over water testing of rocket motors	RDT&E involving rocket motor testing in established land-based ranges with some extension over adjacent waterways.	On land, over adjacent waterways within the NSF Indian Head danger zone.	Daily	0730-1730	Fuels, rocket motors	None	Operations conducted upriver from the proposed national marine sanctuary. No direct or indirect effect on sanctuary resources.
Ordnance investigation at historical firing ranges	Non-intrusive with potential for intrusive recovery.	In water at NSF Dahlgren and NSF Indian Head within the installations danger zones. NSF Indian Head investigation and recovery operations	Infrequent, as needed	As needed	Electronic equipment, potential underwater recovery.	Various, live and inert	Operations conducted upriver and downriver from the proposed national marine sanctuary. Generally, no direct or indirect effect on sanctuary resources. Unexploded ordnance site 33 is upriver from the proposed national marine sanctuary.

		outside of the danger zone.					
Underwater testing operations	Use of electromagnetic sensors (such as modified passive sonobuoys) and acoustic transmitters for testing below water. Also includes unmanned underwater vehicles use in the detection of unexploded ordnance and to facilitate RDT&E activities.	In water at NSF Dahlgren and NSF Indian Head within the installations danger zones.	Average 50 times per year	0730-1730	Electronic equipment	None	Operations conducted upriver and downriver from the proposed national marine sanctuary. No direct or indirect effect on sanctuary resources.
Directed energy operations	Directed energy operations and testing to include the use of flash radiography at both indoor and outdoor land-based locations.	In air, in water, and ashore on NSF Dahlgren and in the Upper and Middle danger zones of the PRTR.	Daily	0730-1730	Directed energy	None	Operations conducted downriver from the proposed national marine sanctuary. No direct or indirect effect on sanctuary resources.
MCB Quantico							
Rotary Wing and Fixed Wing aircraft overflight of the Potomac River for approach and departures.	Aircraft arriving and departing MCAF	MCAF Quantico	31593 Annually	24 hours per day	Rotary and Fixed Wing Aircraft	None	Overflights should have no direct or indirect effect on the protected sanctuary resources.
Technology demonstrations, involving remotely operated vehicles and watercraft.	Remotely operated vehicles	MCBQ	One a Month	Up to 24 hours per day	Remotely operated vehicles	None	Overflights should have no direct or indirect effect on the protected sanctuary resources.

Rescue helicopter training.	Helicopter training	MCBQ	One a Month	Up to 24 hours per day	Rescue helicopter	None	Overflights should have no direct or indirect effect on the sanctuary resources.
Testing and operating landing craft and vehicles from the Potomac River.	LCAC operations	MCAF Quantico	One event a year	24 hours per day during the event	LCAC	None	LCAC operations are noisy, but should have no direct or indirect effect on the sanctuary resources.



AMERICA'S UNDERWATER TREASURES

<http://sanctuaries.noaa.gov>